TEXTILE WORLD

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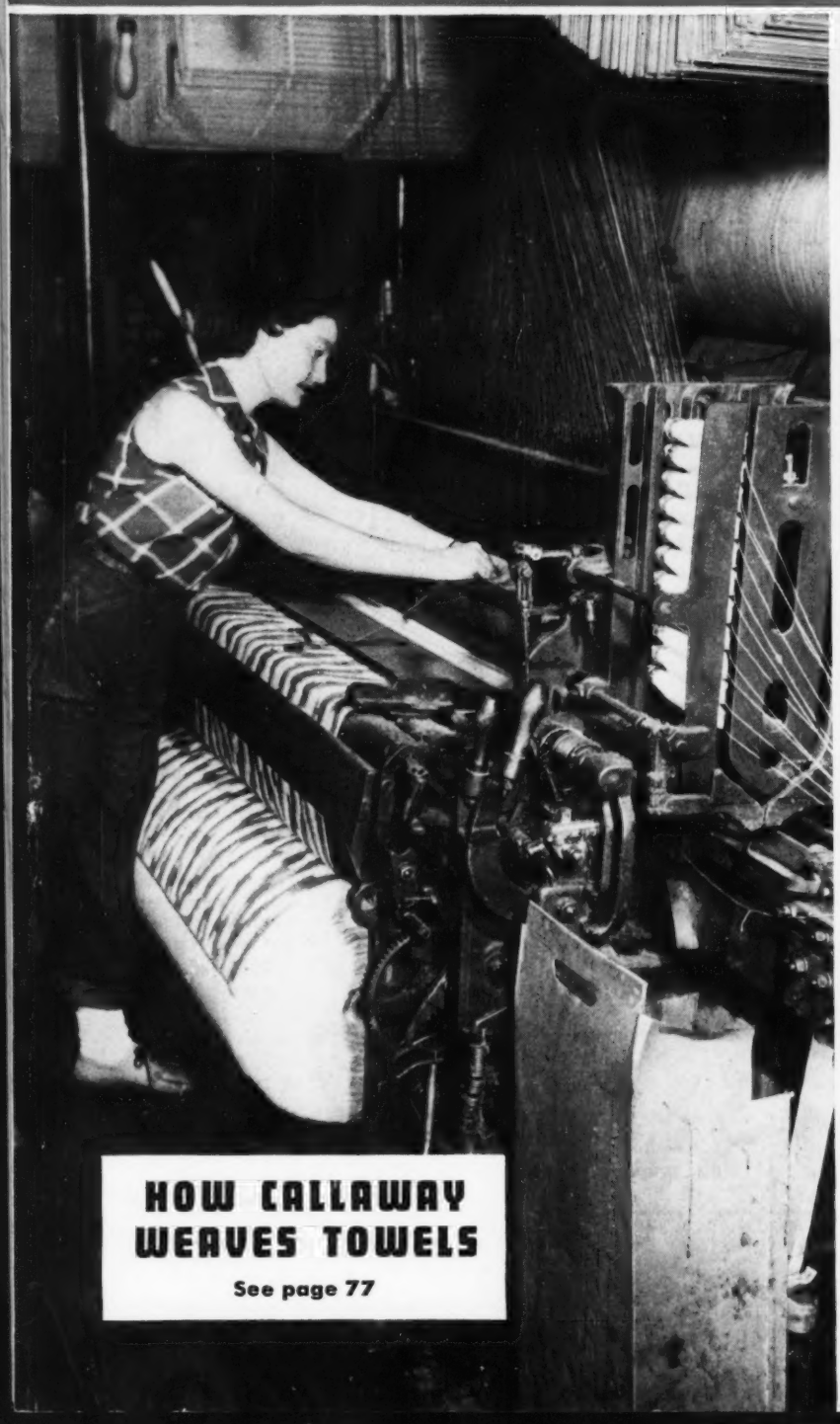

HOW CALLAWAY WEAVES TOWELS

See page 77

IN THIS ISSUE:

Why People Get Fired..... 4
Taslan—A New Type of Yarn..... 75
Callaway's Towel-Weaving Methods.. 77
Heller's Wool Jersey..... 80
Filament-Fabric Shadow Streaks..... 84
Picker Maintenance at Joanna..... 86
Ala. TOE—Maintenance and Supplies. 88
Weaving Operations at Chatham..... 91
Chatham's Finishing Plant..... 94
Colored Patterns on Komet Machines 96
New Slashing Equipment..... 98
Resins Cured in Six Seconds..... 100
TOE Discusses Carding Problems.... 101
How To Increase Spooler Efficiency.. 102
Parts Cleaning Speeds Maintenance.. 104
Avondale's New Beam Dyehouse.... 106
Georgia Mill Men Discuss Spinning... 108
Check F.-F. Knitting Elements..... 110
Improved Fuses Protect Motors..... 112
Good and Bad Tools for Fixing Looms. 114
Handling Filament Yarns..... 116
Modernizing Electrical Equipment... 118
How a Small Raschel Plant Operates. 120
New Backsizers at Carpet Mill..... 125

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INDEX to ADVERTISERS
Keyed by PRODUCTS
See Page 241

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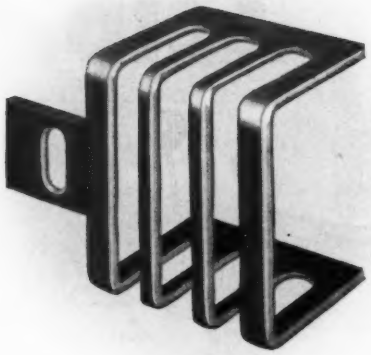
TEXTILE WORLD, Vol. 104, No. 7, July, 1954. Published monthly with an additional issue in November McGraw-Hill Publishing Co., Inc., (Braddon Lord & Nagle Division). Publication Offices, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Office, 330 W. 42nd Street, New York 36, N. Y.

Subscriptions: Address correspondence to TEXTILE WORLD—Subscription Service, 99-129 North Broadway, Albany 1, N. Y., or 330 West 42nd Street, New York 36, N. Y. Allow ten days for change of address.

Subscriptions are solicited only from executives, engineers and technicians in textile manufacturing or finishing plants. Position and company connection must be indicated on subscription orders.

Subscription: United States and possessions, $3.00 a year, $4.00 for two years, $5.00 for three years. Canada, $4.00 for one year, $6.00 for two years, $8.00 for three years. Other Western Hemisphere and the Philippines, $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Entered as second class matter August 29, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in USA. Fifty cents per copy.



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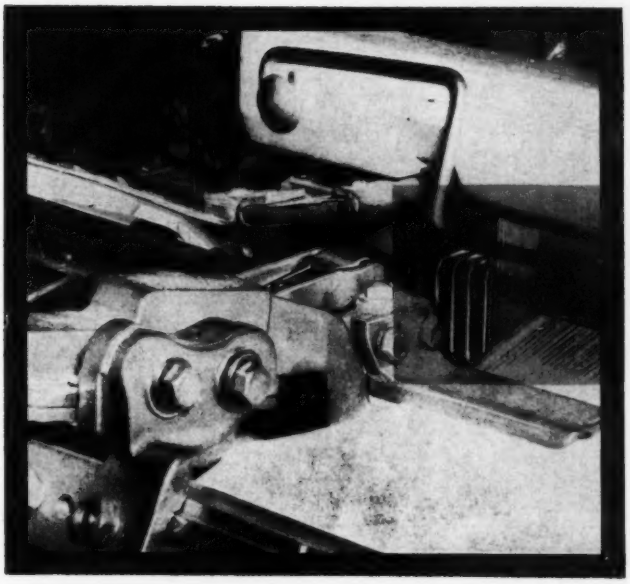

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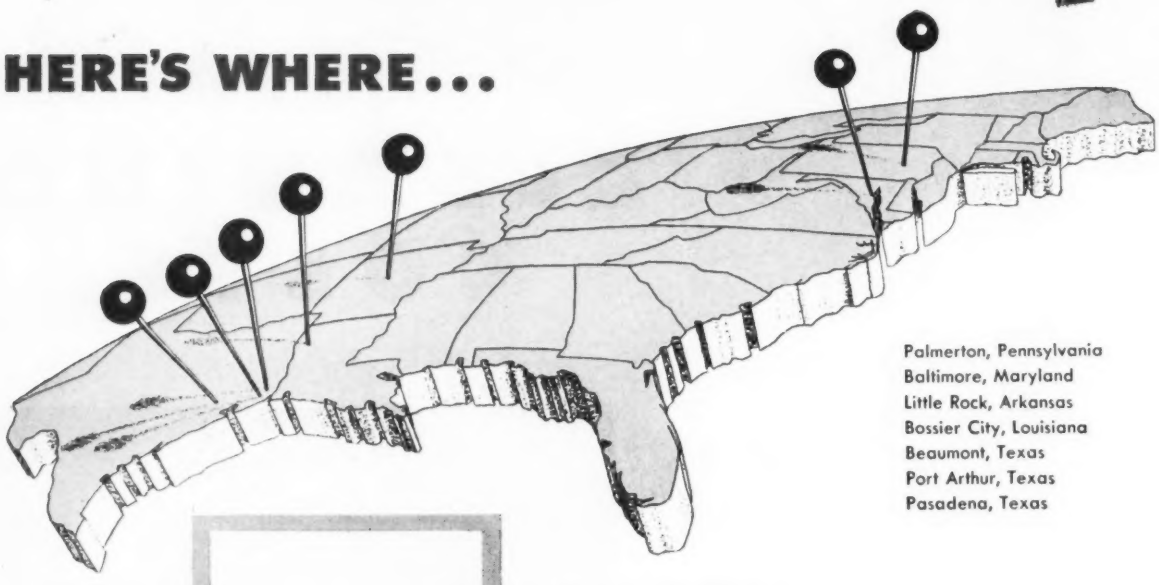

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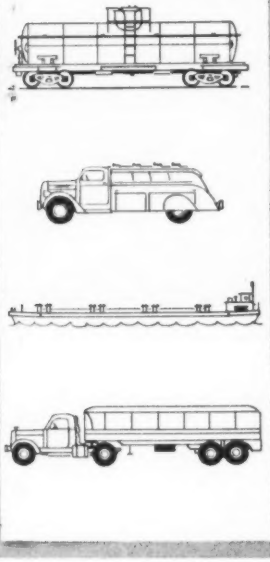

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DEPARTMENTS

Book Reviews	194
Editorial	4
Exploring the Textile Community	129
Kinks and Short-Cuts	150
Mill Maintenance	166
New Dyes and Chemicals	144
News About Men	230
News About Mills	224
News About Suppliers	220
News of the Month	214
Obituary	233
Pointers for Supervisors	127
Questions and Answers	148
Reader Service	161
Round Table	147
Textile Equipment News	131
Textile Calendar	213
Textile Tickles	147
Trade Literature	162
Useful Accessories	187
Advertisers' Index	241

Table of Contents

JULY • 1954
Volume 104 Number 7

KEYED ACCORDING TO READER INTEREST

SPINNER	WEAVER	KNITTER	FINISHER	ENGINEER			COTTON	SYNTHETICS	WOOL
					Feature Articles				
Y	W	K	F	E	Why People Get Fired (Editorial)	4	C	S	W
Y	W	K			TASLAN—A New Type of Yarn	75		S	
	W				How Callaway WEAVES QUALITY TOWELS	77	C	S	
Y		K	F	E	Heller's WOOL JERSEY	80			W
	W		F		Eliminate Filament-Fabric SHADOW-STREAKS	84		S	
Y					PICKER MAINTENANCE at Joanna	86	C	S	
				E	Alabama TOE—MAINTENANCE and SUPPLIES	88	C	S	W
Y	W				WEAVING OPERATIONS at Chatham	91	C	S	W
			F		Chatham's Modernized FINISHING PLANT	94	C	S	W
		K			Knit Colored Patterns on KOMET MACHINES	96	C	S	
Y	W				New SLASHING EQUIPMENT at Gold-Tex	98	C	S	W
			F		RESINS Cured in Six Seconds	100	C	S	
Y					TOE Discusses CARDING Problems	101	C	S	
Y	W	K			How To Increase SPOOLER EFFICIENCY	102	C	S	W
Y	W	K	F	E	Parts Cleaning Speeds MACHINE MAINTENANCE	104	C	S	W
			F		Avondale's New BEAM DYEHOUSE	105	C	S	
Y					Georgia Mill Men Discuss SPINNING	108	C		
		K			Check F.-F. KNITTING ELEMENTS	110		S	W
				E	Improved Fuses Protect ELECTRIC MOTORS	112	C	S	W
	W				Good and Bad Tools for FIXING LOOMS	114	C	S	W
Y	W				Handling FILAMENT YARNS	116		S	
				E	Modernizing ELECTRICAL EQUIPMENT	118	C	S	
		K			How a Small RASCHEL PLANT Operates	120		S	
Y			F	E	Carpet Mill Installs New BACKSIZERS	125	C	S	W
					Textile Equipment News				
	W	K			Heavy-Duty BEAMER	131	C	S	W
		K			Simulated Rib Made on JERSEY MACHINE	131	C	S	W
Y	W	K		E	YARN-CONDITIONING Machine	132		S	
Y	W	K			TENSION ANALYZER	132	C	S	W
Y					FALSE-BOTTOMED BOXES Keep Roving Tidy	132	C	S	W
		K			TUCK-STITCH MACHINE Has 10 Feeds	134	C	S	W
			F		Rotary CUTTER-WINDER	134	C	S	W
	W			E	Westinghouse LOOM MOTORS	134	C	S	W
Y	W	K			High-Speed YARN ANALYZER	136	C	S	W
Y					WEB-CONTROL Device	136	C	S	
	W	K			PATTERN ATTACHMENT for Tufting Machine	136	C	S	W
Y				E	Builder and Traverse PULLEYS	138	C	S	W
	W				Hardened-Plastic BOBBINS	138	C	S	W
		K	F		Multiple-Tier LEG FORMS	138		S	
			F	E	New QUILTING MACHINE	140	C	S	W
			F		Automatic COLOR ANALYSIS	140	C	S	W
			F	E	Automatic EDGE GUIDE Works From Pressure	142	C	S	W
	W	K	F	E	STACKING RACK for Carpets or Warp Beams	142	C	S	W
					Kinks and Short-Cuts				
	W				Use a JIG To Bore Holes for Harness Hooks	150	C	S	W
	W				Repair BROKEN HARNESS RIBS Quickly	150	C	S	W
Y					Cut 4-in. Strips Across PICKER LAPS	151	C	S	
Y					MAGNET Cuts Waste-Machine Fires	151	C	S	W
	W				Put DROP WIRES on Warp Ends Easily	152	C	S	W
Y					Truck Eases WASTE HANDLING	153	C	S	W
Y	W				Harness Cords Hold Ends on LOOM BEAMS	153	C	S	W
			F	E	CLOTH CARRIERS Ease Work	153	C	S	W
Y					Ream Flyer Tops To Improve ROVING TWIST	153	C	S	W
Y					Table Tells Time for ENDS-DOWN TESTS	154	C	S	W
			F		Prevent Damage to CALENDER ROLLS	154	C	S	W
Y	W	K	F	E	CABINET for Spare Parts and Lubricants	156	C	S	W
			F	E	EXTRACTOR LOADING Improved	156	C	S	W
Y	W			E	FANS Oscillate Above Slasher	158	C	S	W
		K			CONE-HANDLING SYSTEM Saves Knitters Time	158	C	S	W

THE Long-Range VIEW

Why People Get Fired

- **91.3% of the people who get fired are canned for reasons that have nothing to do with job know-how**
- **Disloyalty is the single greatest cause**

These astonishing facts were brought out by Dr. Kenneth McFarland, educational consultant to General Motors, in a talk at the recent ACMI meeting in New Orleans. Other causes mentioned included laziness, dishonesty, health, alcohol, and immorality; but none of these reasons for dismissal were as frequent as disloyalty.

Unfortunately, the antics of some members of the national government in recent years and months have brought stigma to the words "disloyalty" and "loyalty." It is almost impossible now to use those words without raising unpleasant associations in the minds of people who hear or read them. In this discussion, we should try to forget politicians and think of loyalty as a simple human trait.

What Is Loyalty?

In a person's relations on his job, loyalty is no more than doing what he is paid to do. When he accepts a job with a company, he accepts certain basic responsibilities. Whether or not they are specifically mentioned (and they almost never are because every human being accepting any job is expected to have such qualities), responsibilities automatically accepted include such things as:

1. To do the assigned amount and quality of work
2. To get along with the people (below, level with, and above) him
3. To actively and cheerfully support the policies by which the company operates
4. To do nothing that will harm, directly or indirectly, the company, the business, or the team of which he is willingly becoming a part

These things add up to loyalty. Anyone who cannot fulfill these obligations should not accept a job.

What Causes Disloyalty?

It probably would take a psychiatrist a year or two in any given case to find out why an individual is so disloyal that he must be fired from his job. To say that the reason is due to some askew and emotional state is about as specific as saying you believe in happiness. Yet disloyalty undoubtedly is an emotional thing. For some reason, a person puts self-interest or loyalty to other things above the loyalties due in his job associations.

Among textile workers and supervisors, our observation has been that the most frequent disloyalty is toward the boss, particularly the immediate boss. There probably is not a foreman, second hand, overseer, or superintendent who has not at some time had someone under him "go over his head" about something. It is likely that very few have not had someone on a level with him "report" him for something. And it is also likely that few have not, at some time or other in their working careers, tried to slip the knife into somebody else.

Very often the immediate cause (not the full and final cause a psychiatrist would look for) is a mixture of misdirected ambition and thwarted feeling of importance The boss simply is in the way of our own fulfillment, and something has to be done about it. . . . And up pops disloyalty, and perhaps another dismissal to add to the statistics.

To Avoid It—

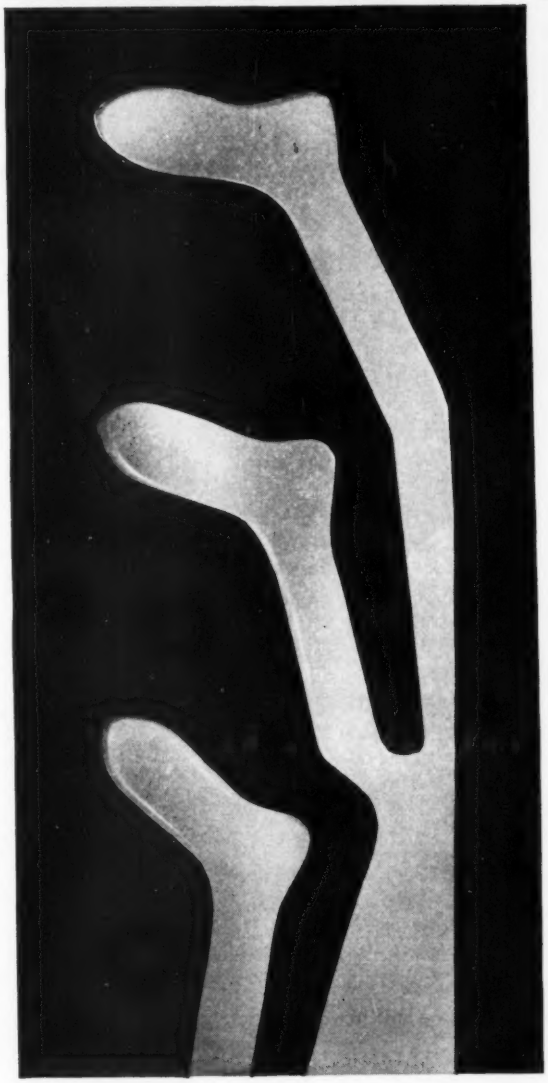
It has become a trite saying that human relations is a two-way street. Like all trite sayings, it usually bounces off us without making much impression. Unfortunately, most of our early training and practically all of our formal education and occupational training are directed at one thing: leadership. Practically every American male has had the idea of leadership thrown at him from so many sources that he thinks he is an abject failure so long as there is anyone in his little world who is regarded as a bigger leader than himself.

Schools and human-relations courses would do well to pay somewhat less attention to leadership and a little more to followership. And anybody with a job that requires him to work with people would do well to stop occasionally and check himself as a follower instead of as a leader. It might save him from being disloyal to the point of getting fired.

A. M. Thomas

EXCLUSIVE NEW FEATURE

of the Turbo AD-48



Triple-tier aluminum leg forms to triple your production of children's Nylon and Helanca socks . . .

Double-tier aluminum leg forms to double your production of men's Nylon and Helanca socks . . .

Figure it this way. The Turbo AD-48 is a money-maker today with single forms. Nothing else is changed. Cabinet temperatures are dial-set. Timing is automatic. One group of 24 forms moves into the cabinet for processing, while the other group of 24 forms moves out for undressing.

Production with the triple-tier form is 350 dozen pairs in an 8-hour day!

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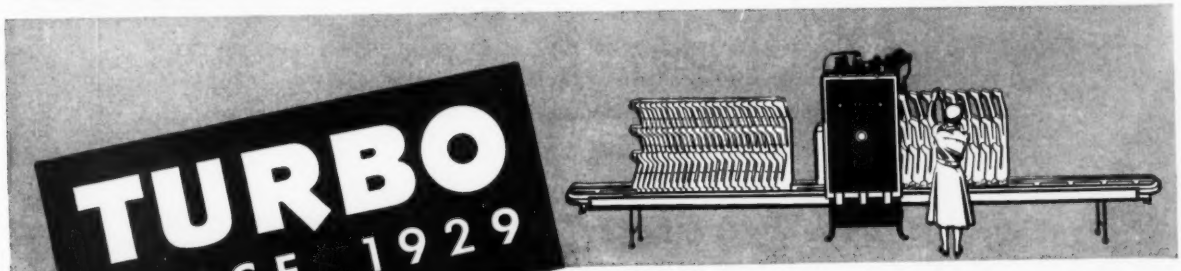

Precision Machines for Heat-Setting or Steam-Setting Synthetic Yarns, Fabrics and Garments.

Send full details on:

☐ Turbo AD-48 with Triple-Tier Forms for children's socks

☐ Turbo AD-48 with Double-Tier Forms for men's socks

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91 OF THE TOP 100

Better than we knew

In reading a recent independently prepared list of the 100 leading textile manufacturing firms in America, we were struck by the number of familiar names.

A close cross-check with our own files confirmed a dawning realization . . . and handed us the most pleasant surprise we've experienced in years.

Of the 100 top textile firms in the nation,
91 are users of Bahnson equipment.

We believe this impressive preference is due in great measure to the completeness of our service . . . to the policy that every mill, every job, is an individual problem with an individual solution.

The majority of these installations are completely integrated systems . . . with Humiducts or air washers, controls, grilles, dampers and most other components designed, fabricated and installed by our own textile air conditioning specialists.

Whether your mill is large or small — your air conditioning problem simple or unique — we have the engineers, the experience, the equipment for the proper solution.

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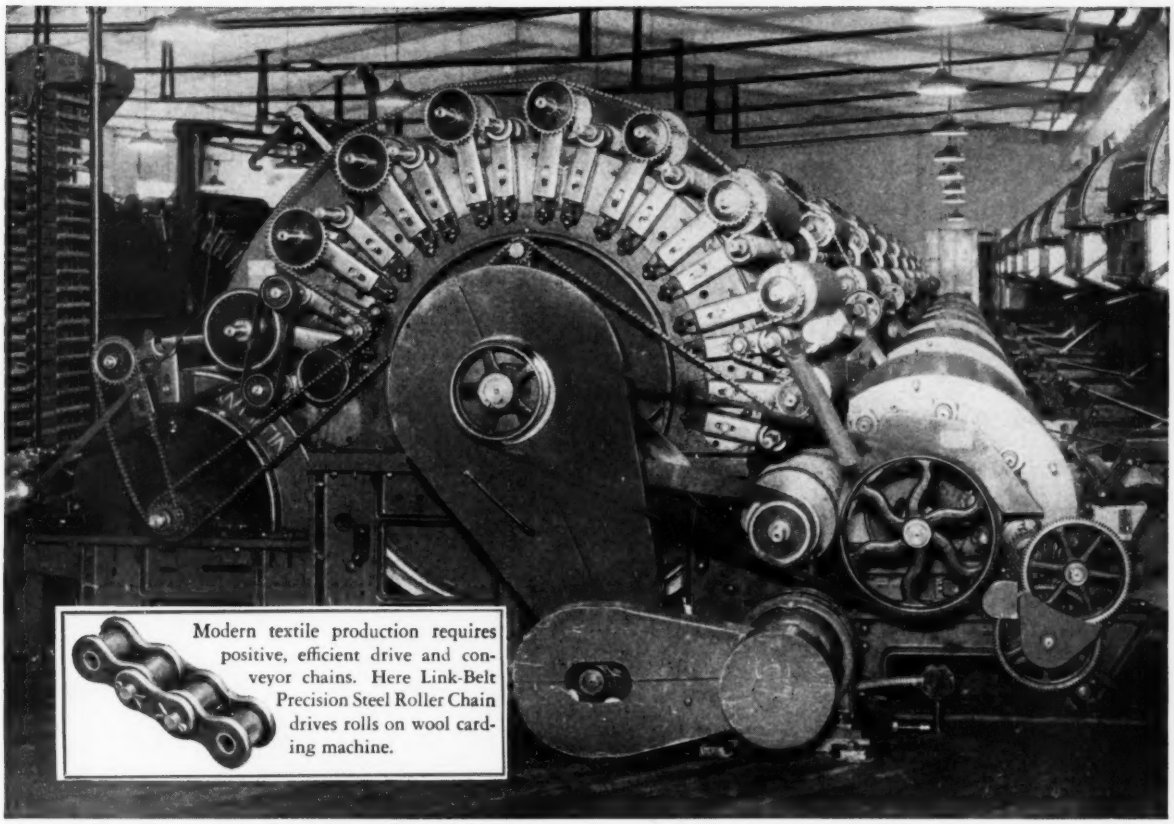

Modern textile production requires positive, efficient drive and conveyor chains. Here Link-Belt Precision Steel Roller Chain drives rolls on wool carding machine.

What is the right chain for your drive or conveying job?

Typical chains from the complete LINK-BELT line

Ewart Detachable Link-Belt—A widely used, popular chain for average or normal-duty service on conveyors, elevators and drives.

Class 400 Pintle Chain—Closed end design keeps out dirt, makes excellent service medium for drives, elevators, conveyors.

Double-Pitch Precision Steel Roller Chain, for conveyor, power transmission applications.

Silent chain, for smooth, high-speed drive service, from fractional to thousands of horsepower.

You'll find the answer in LINK-BELT's complete chain line... a size and type for every need

WHETHER it's a high-hp, heavy-impact drive or relatively slow-speed conveying service—you can get the *one* chain that best meets your needs from Link-Belt's complete chain line. Our engineers will be glad to work with you—help you select the right chain for your requirements. And you can be sure that any Link-Belt chain you buy is quality-built for longer life.

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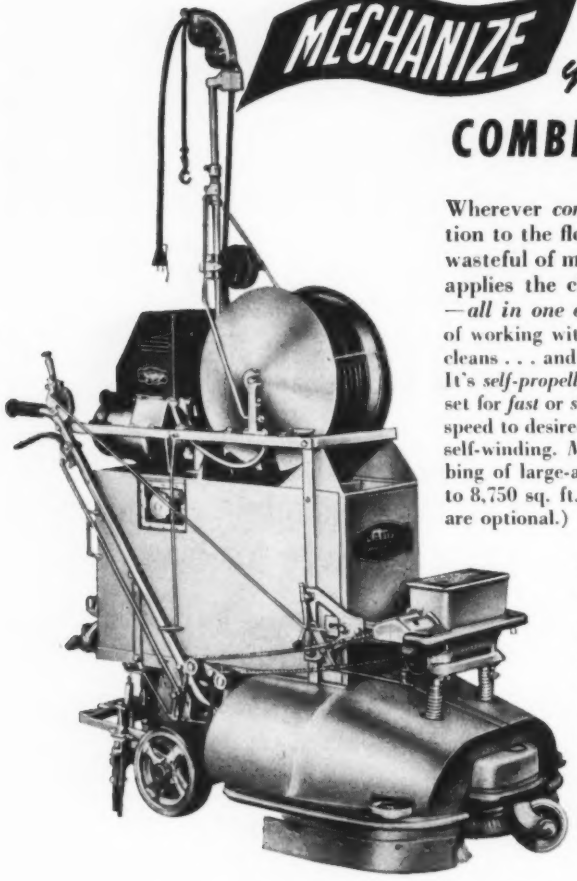
LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 13.209-G

Let's not clean away dollars and man-hours with costly, inadequate floor care

MECHANIZE *your floor-cleaning with a* COMBINATION SCRUBBER-VAC!



Wherever *combination-machine-scrubbing* is the practical solution to the floor-cleaning problem, any lesser, slower method is wasteful of money and manpower. A *Combination Scrubber-Vac* applies the cleanser, scrubs, flushes if required, and picks up —*all in one operation!* Maintenance men like the convenience of working with this single unit . . . the thoroughness with which it cleans . . . and the features that make the machine simple to operate. It's *self-propelled*, and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs quietly. Cable reel is self-winding. *Model 213P Scrubber-Vac* at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder Dispenser and Level Cable Wind are optional.)

Finnell makes *Scrubber-Vac Machines* in a full range of sizes—for small, vast, and intermediate operations. From this complete line, you can choose the size that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac*, and that *a Finnell floor specialist and engineer is nearby* to help train your maintenance operators in the proper use of the machine . . . to recommend cleaning schedules for most effectual care . . . and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1907 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

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made to your specifications

SURFACES — Plain, sized, polished, UNITEX or VELVET (solid or banded) parchment wrap, scored, embossed or in combination.

ENDS — Plain, crimped or burnished; with "V", slit, rectangular, square or half circle end notches.

IDENTIFICATION — colored paper — solid or outside or inside wrap; lacquer or dye tipped, or printed ends.

With our manufacturing facilities and our vast experience in the textile carrier field, we can supply you with creeling tubes made to your own specifications, or our sales engineers can suggest a tube to meet your requirements. Tubes available in all standard or special sizes, either parallel or spiral wound in any practical wall thickness.

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CRUCIBLE REZISTAL STAINLESS STEELS

SAVE MONEY ALL THROUGH THE

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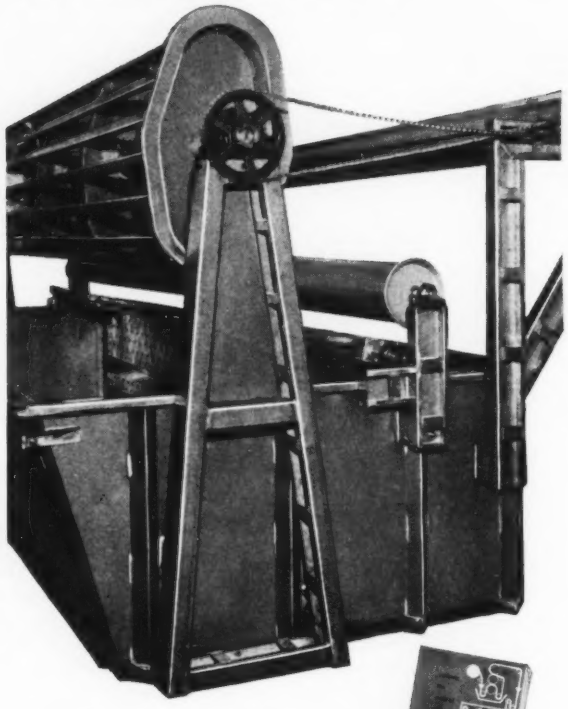
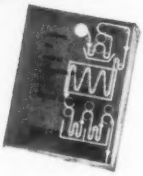
From control instruments to valves and piping . . . from aging to vacuum extracting . . . Crucible Rezistal® stainless steel equipment saves you money.

That's because stainless reduces maintenance and cleaning costs, increases production, and cuts down replacement or repair. And Crucible stainless steels are a perfect choice for operations involving corrosive materials.

It will pay you to check the need for stainless in your textile operations. New stainless machines, parts, hoods, ducts, drip guards or drains should be on your construction program in every case where they will pay their way in reduced operating costs.

In textile applications stainless is no luxury — in fact, it's the least expensive long-run material that money can buy. So let your Crucible representative help you explore new ways to cut costs with stainless.





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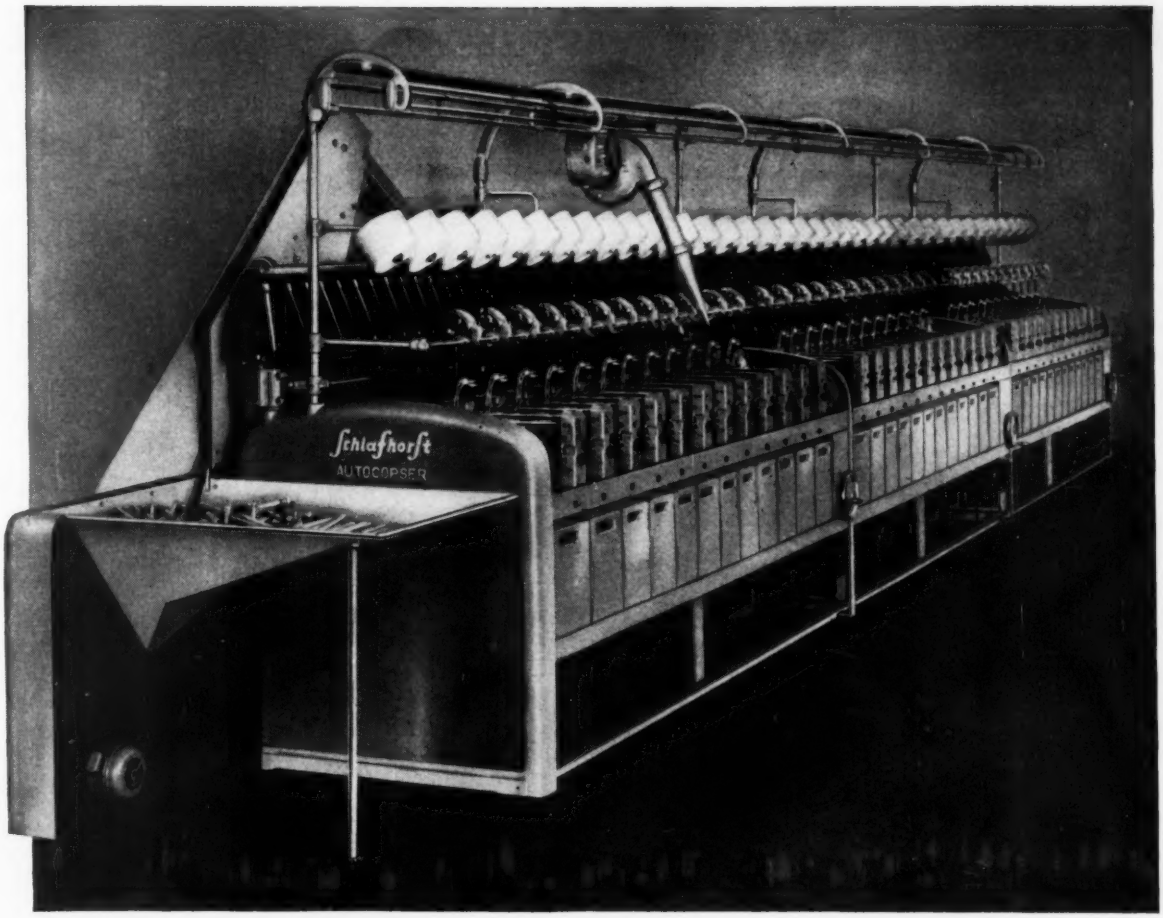


The above illustration shows our fully automatic quiller "AUTOCOPSER".

It is equipped with rotary yarn guides that have no oscillating parts. Quilling speed is limited only by the quality of the yarn and tube material used. To meet the requirements of high speeds up to 12000 revs per minute, the machine is very substantially built. Each quilling head functions independently, entirely unaffected by automatic change of pirns or by stoppages caused by broken ends.

The special shape of the groove of the rotary yarn guide ensures firm winding at the apex of the conical yarn layers, without danger of damaging the yarn. The grooved guide drum is of wear-resistant material and runs in a single one-sided bearing. It follows the build of the quill, and thus simplifies attendance by making the quill easily accessible at every stage of its formation.

Manual servicing is confined to filling the magazines or hoppers (as the case may be) with empty tubes, taking care of occasional broken ends, and to creeling fresh packages. Attendance is reduced to a minimum and simplified throughout.

Quills are firmly held in position between a live centre and a dead one so as to run smoothly and without vibration even at highest permissible speeds.

A novel feeler device controls the advance of the yarn guide by means of a continually revolving threaded rod that is positively driven. The slightest contact between a wide but light feeler roll and the yarn body immediately engages the yarn guide feed with the negligible application of an infinitesimal amount of power. This is achieved by means of an exceedingly simple gearless shifting device developed for this special purpose. The sturdy yet extremely sensitive mechanism has the sole functions of (1) *controlling the point* at which the steadily-turning threaded spindle must provide the necessary feed and (2) the *duration of time* for which this feed is continued.

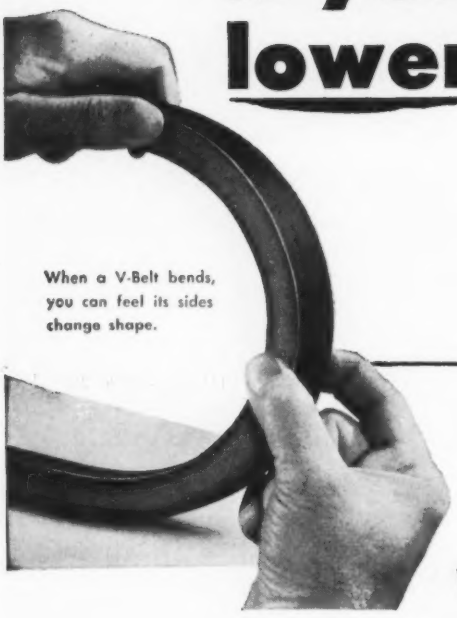
Moreover, a continual displacement of the yarn layers is obtained by suitably utilizing the alternating feed and retractive shifts.

Upon contact between yarn body and feeler roll, the required lengthwise movement of the yarn guide is obtained each time. Since the feeler roll turns without rubbing against the yarn body, the most delicate yarns can be pirned without damage, at the highest speeds. Control of feed by the above-mentioned shifting device results in perfect pirns.

W. SCHLAFHORST & CO., M. GLADBACH, GERMANY

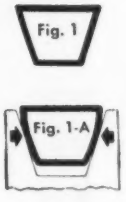
Schlafhorst

if you want lower V-Belt costs—



When a V-Belt bends, you can feel its sides change shape.

just make this simple test

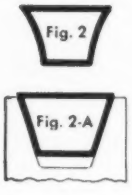


Take *any* V-belt that has *straight* sides (Fig. 1). Bend that V-belt while you grip its sides with your fingers. You will *feel* the sides *bulge out* (Fig. 1-A). Clearly, that out-bulge forces the belt to press *unevenly* against the V-pulley—and this *concentrates* wear at the points shown by arrows (Fig. 1-A).

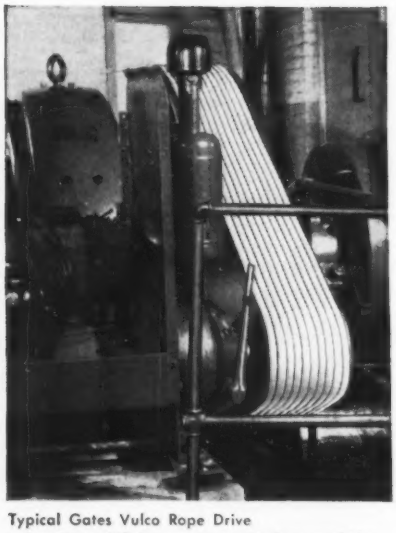
Now bend a Gates Vulco Rope with

CONCAVE SIDES (Fig. 2)

(U.S. PAT. NO. 1813698)



Instead of *bulging*, the precisely engineered CONCAVE SIDES merely *fill out* and become perfectly straight. This belt, when bent, *precisely fits* its sheave groove (Fig. 2-A). The sides of the Gates Vulco Rope press *evenly* against the V-pulley. Therefore, wear is distributed *uniformly* across the *full face* of this belt —resulting in *longer* belt life and *lower* belt *costs* for you!



Typical Gates Vulco Rope Drive —the Gates V-Belts are built with Concave Sides to insure longer belt wear.

When you buy V-belts, be sure to get the V-belt with the Concave Sides—the Gates Vulco Rope!

Gates VULCO ROPE DRIVES

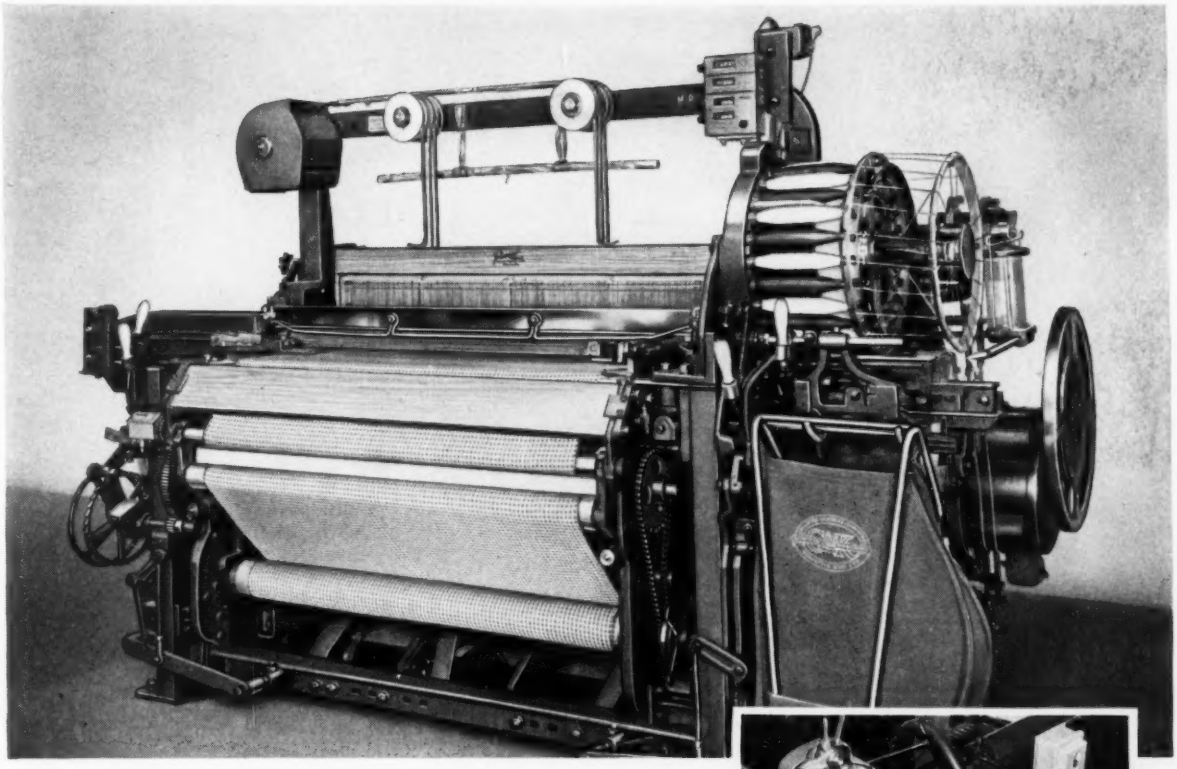
REG U. S. PAT. OFF.

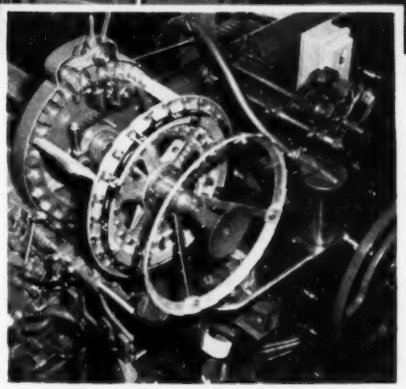
Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.

THE GATES RUBBER COMPANY
DENVER, U.S.A.

CS-543

Here Again...
M-P means More Profit to You
...in C&K's New 2-Color Denim Loom





New 2 x 1 Rotary Magazine on C&K's 2-Color Denim Loom.

NEWS HEADLINER at Atlantic City was this new C&K *Multi-Purpose* Loom for weaving 2-color denim automatically.

This is one of 5 new C&K M-P Looms designed to produce for you the greatest amount of salable cloth at lowest cost per yard. And each of these 5 M-P Looms gives you these same 4 basic advantages . . . because each has the *same basic frame* to which any motion can be applied:

1. Lower Maintenance Cost: Heavier loom frames cut down vibration. Many more parts are doweled into place . . . so machine settings are retained longer. New cone picking motion and double-plate clutch reduce down time and increase efficiency.

2. Fuller Work Assignments: Better control of both filling and warp . . . with lessened maintenance needs . . . should make possible an increase in work assignments.

3. Greater Flexibility: New M-P Looms are quickly and easily convertible . . . because *all* parts of *all* motions have been designed to fit onto the same basic frame.

4. Better Cloth Quality: 2, 3, and 4 color rotary magazines hold bobbins securely. Bobbins don't slip . . . transfers are clean. Vacuum control picks up all ends. Composite let-off is positive. So with both filling and warp under better control . . . and with loom-stops reduced to a minimum . . . quality of cloth is bound to be better.

Get the whole story on the new 2-color denim loom . . . the 4 x 1 filament loom . . . and all the other new C&K M-P (*M*ore *P*rofit, to you) looms. Get in touch with C&K today.

Crompton & Knowles LOOM WORKS

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Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

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Another new development using

B. F. Goodrich Chemical *raw materials*

B. F. Goodrich Chemical Company does not make these wing covers. We supply only the Geon paste resin.

Cover-up story on Jet Wings

THESE wings for B-47 Stratojet bombers must be protected during rail shipment from sub-assembly plants to the Boeing Airplane Company's Wichita, Kansas, Division. Here's how Geon polyvinyl materials play a part in getting the wings there safely.

The wings are an oversize load, measuring 58 feet. They are shipped 2 pairs to a flat car and must be protected against damage from weather, smoke, soot and abrasion. A plastisol based on Geon paste resin coated over nylon fabric was used by the manufacturer for the special covers designed for this job. As the result, special crating or boxcars are not needed and wings are protected during open air storage, saving hangar and warehouse space.

Thanks to the Geon coating, these covers resist the effects of grease, oil, mildew and retard flame. High tensile and tear strength of the fabric and Geon coating have enabled the covers to make more than 70 trips—with more to come!

This use for a Geon material may give you ideas for solving a problem—or developing a product with ready sales appeal. Geon materials have many profitable uses, from upholstery and wire insulation to rigid tubing, sponge and more applications. For helpful technical information, please write Dept. GU-4, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable
GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON colors

A AVAILABILITY
S SERVICE
Q QUALITY

AVAILABILITY of B&W CARBON STEEL SEAMLESS MECHANICAL TUBING

Gives you buying convenience

FORM IT
BEND IT
MACHINE IT
JOIN IT
EXPAND IT
SWAGE IT
1. You can specify hot-finished, cold-drawn or roto-rocked tubing.
2. You can select tube sizes in diameters up to 9⅝" OD in a complete range of wall thicknesses.
3. You can choose from regular carbon steels, free-machining steels such as C1117, C1126, C1137, or high manganese steels like C1019, C1022 and C1024.

remember A S Q *is meant for you*

B&W SEAMLESS and WELDED TUBES

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

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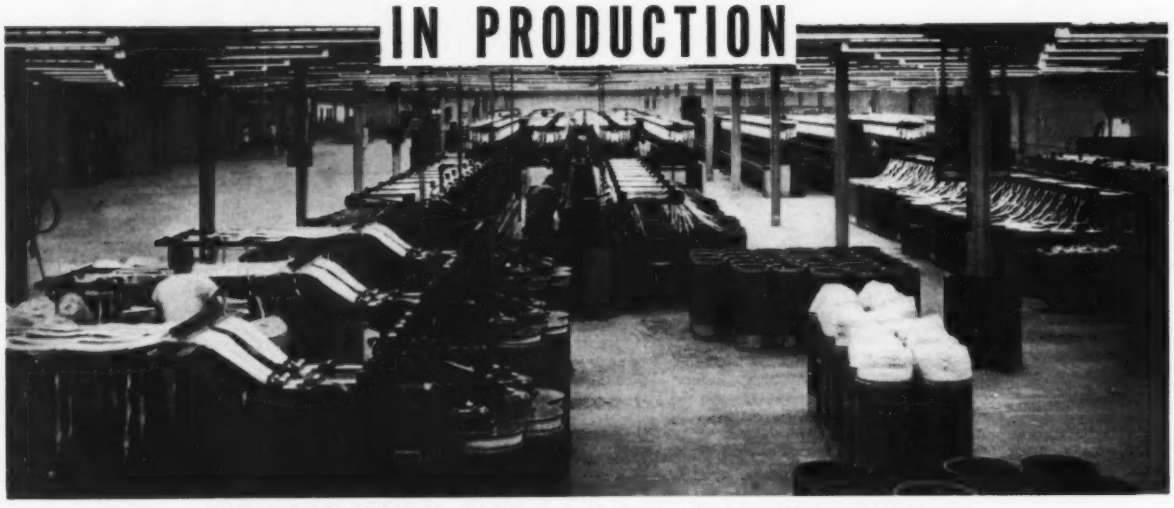
NEW WOOLEN TEXTILE ACTIVITY IN THE SOUTH!

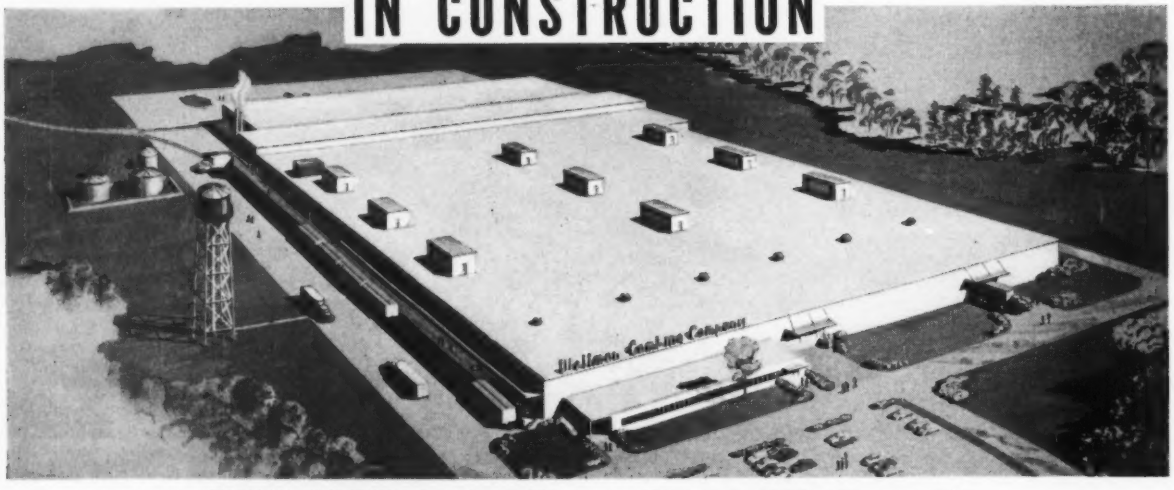
PROJECTS BY LOCKWOOD GREENE

IN PRODUCTION



NATIONAL SPINNING CO., Washington, N. C.—A spinning mill on worsted yarns and blends, laid out for future expansion to include scouring, combing and dyeing.

IN CONSTRUCTION



WELLMAN COMBING CO., Johnsonville, S. C. — Now in construction for very early completion, this 150,000 sq. ft. wool combing plant is arranged for expansion to handle 84,000,000 lbs. of wool per year.

IN DESIGN

New wool combing plant in South Carolina for BRANCH RIVER WOOL COMBING CO. of Woonsocket, R. I.

The Wellman plant is a unit of Nichols & Co., Boston, Mass. The Branch River plant is a unit of Amedee Prouvost of Roubaix, France. These are two of the largest wool processing firms in the world.

LOCKWOOD GREENE ENGINEERS, INC.

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MONTGOMERY BUILDING

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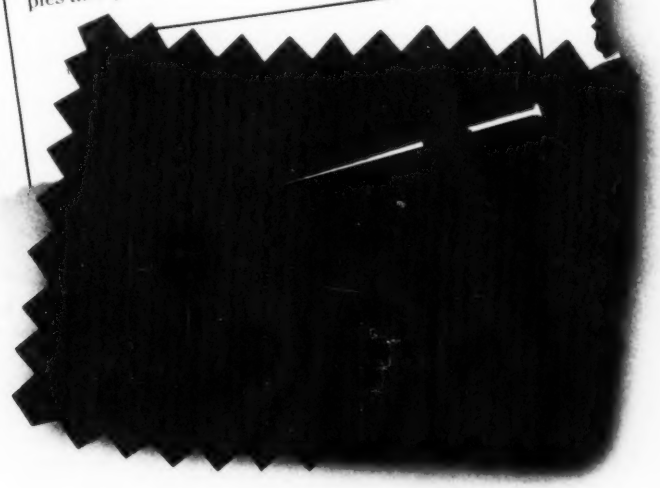
Good news for dyers of cotton and rayon...

New National Vat Dye Carbanthrene Brown BR Available in Two Forms

Excellent end-use fastness, excellent in-the-mill processing properties, that's the quick story of National Carbanthrene Brown BR.

Available in paste or convenient flake form, this new National Vat produces reddish brown shades with excellent fastness to light, washing, perspiration, sea water, dry cleaning and hot pressing. Resisting the color-destroying agencies of mill-processing operations, it has very good to excellent fastness to boiling soap, chlorine and peroxide bleaching, stoving, mercerizing and cross dyeing. In addition, resin finishes yellow the shade but very little, do not affect its light fastness.

For complete fastness ratings, shade card, samples and prices, write or phone our nearest office.



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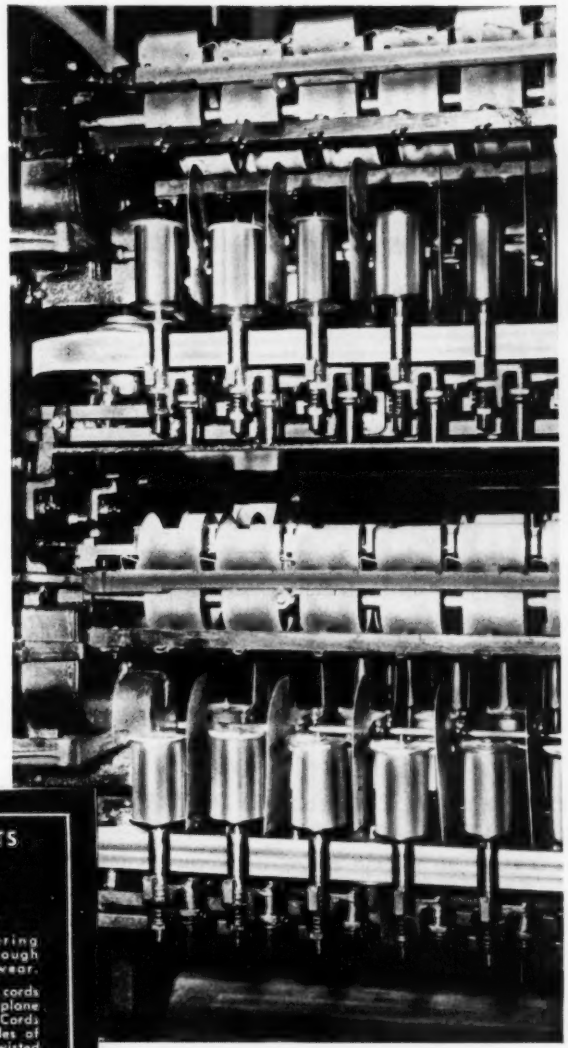
The G.T.M.—Goodyear Technical Man—specified endless COMPASS CORD belts made of special, oil-resistant, synthetic rubber compounds. These more flexible, higher strength belts ran over *three years* with less stretch, less take-up, less maintenance — better production because of more efficient power transmission. And at last report, they *were still running.*

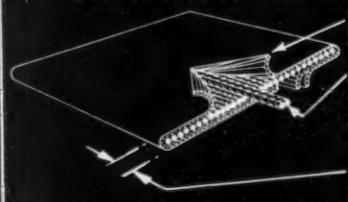
COMPASS belts are virtually stretchless and 25% thinner than others of equal power rating. They are mildew-inhibited and extremely long-lasting. They are made in five different weights to cope with any type of service. The right one for your drive is yours by calling the G.T.M., your Goodyear Distributor or writing Goodyear, Industrial Products Division, Akron 16, Ohio.



GOODYEAR INDUSTRIAL PRODUCTS

GTM-Specified

COMPASS CORD Transmission Belting



A. Cord-covering envelope of tough fabric resists wear.

B. Multi-strand cords laid in a single plane carry the load. Cords on opposite sides of belt axis are twisted in opposite directions to insure true running.

C. Thinner cross-section permits longer life over smaller pulleys.

***YOUR GOODYEAR DISTRIBUTOR** can quickly supply you with Hose, Flat Belts, V-Belts, Packing or Rolls. Look for him in the yellow pages of your Telephone Directory under "Rubber Products" or "Rubber Goods."*

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THE GREATEST NAME IN RUBBER

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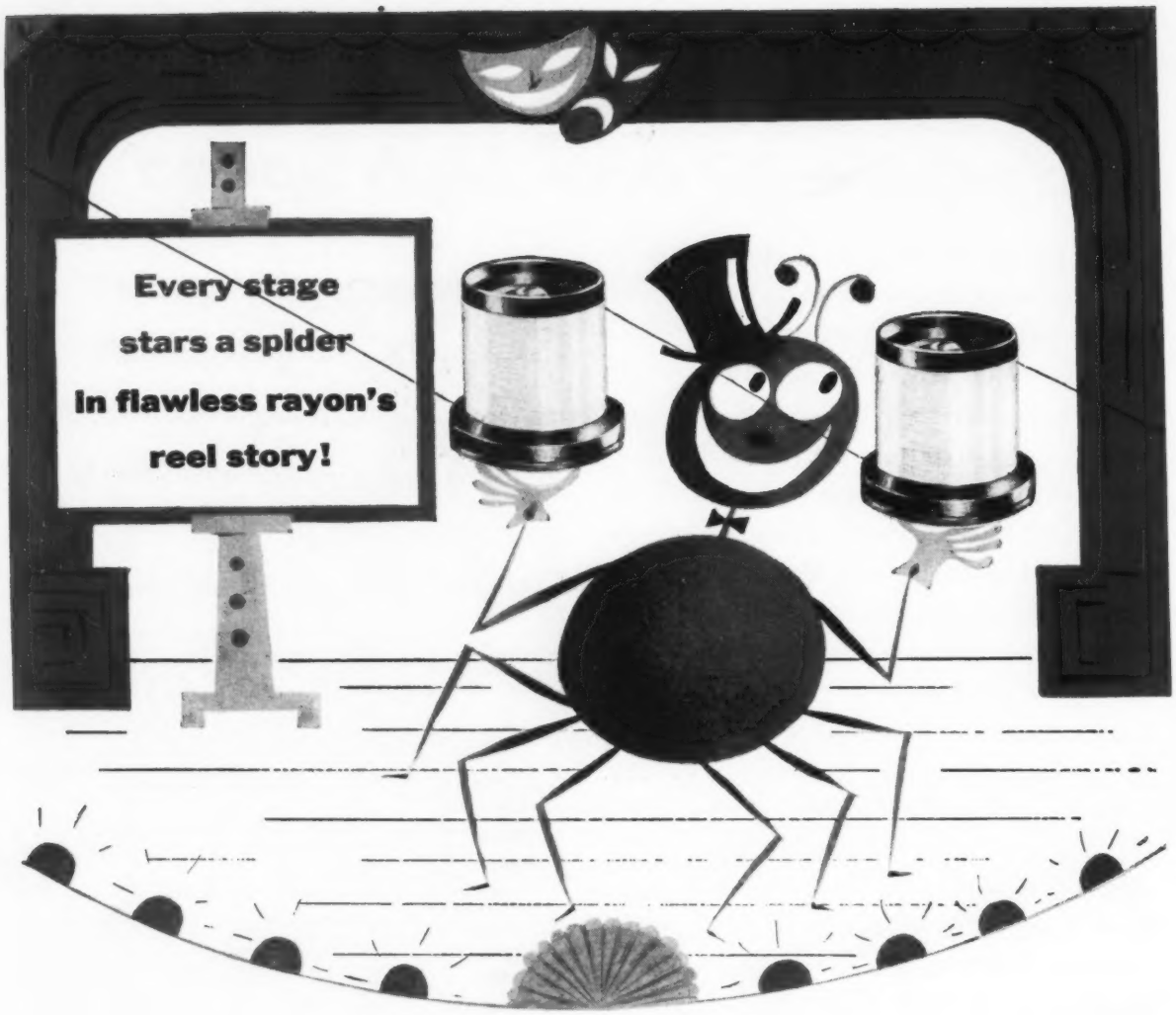
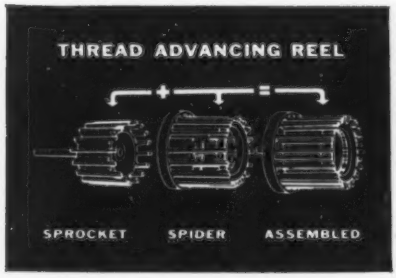


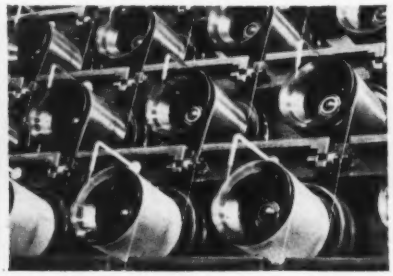
CONSISTENTLY FLAWLESS PERFORMANCE from rayon is assured by more than 150,000 spiders working at every stage of Industrial Rayon's Continuous Process.

SPIDERS ARE THE YARN CARRIERS of IRC's famed thread-advancing reels. They make it possible for yarn to travel from reel to reel for individual thread treatment. Yarn is uniform inch by inch as it is spun, bleached, washed, dried, treated and twisted in one continuous sequence of operations.

THIS IS THE SECRET of complete uniformity of denier, strength and quality . . . never possible when rayon yarn is produced by ordinary methods. Because the yarn is untouched by human hands, knots and broken filaments have been virtually eliminated.

CONTINUOUS PROCESS is the one process that saves weavers costly rejects due to chronic yarn imperfections. No wonder IRC rayon has become the quality standard among quality weavers.





Industrial Rayon Corporation

IRC

Cleveland, Ohio

Sales Office: 500 Fifth Avenue, N. Y. 36

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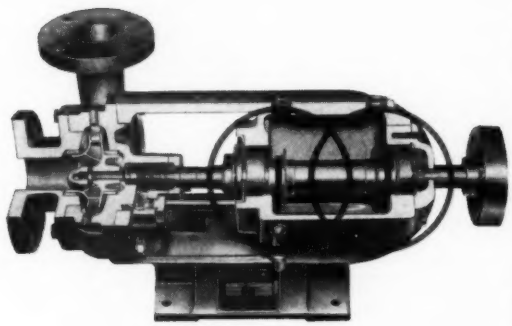
This Ring Takes a Fling

To give you a Cradle-Mounted Pump

THAT'S WORTH MORE



This oil ring is the best known method of lubricating cradle-mounted pump bearings. Two of them ride the shaft of Ingersoll-Rand's CRV pumps, dip into the oil reservoir, fling an abundance of oil and mist onto the ball bearings.

But these are more than just flinger rings. They are examples of the extra value that's built into every I-R cradle-mounted pump . . . to give you more for your money in design and construction, that adds up to longer pump life with less maintenance.

There are easier, less expensive ways to lubricate bearings; easier, cheaper ways to build pumps—but none of these are the Ingersoll-Rand way. Check today on the I-R way of building more on-the-job value into every pump. Your nearest distributor or Ingersoll-Rand branch office will be glad to tell you, without obligation, the complete story about Cradle-Mounted pumps and Motorpumps.

Cameron Pumps ARE Better

9-3

Ingersoll-Rand

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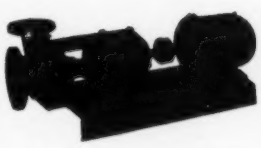
Single-Stage Motorpump
Capacities to 1800 GPM

Two-Stage Motorpump
Capacities to 300 GPM

Four-Stage Motorpump
Capacities to 60 GPM



Cradle-Mounted Pump
Capacities to 2600 GPM

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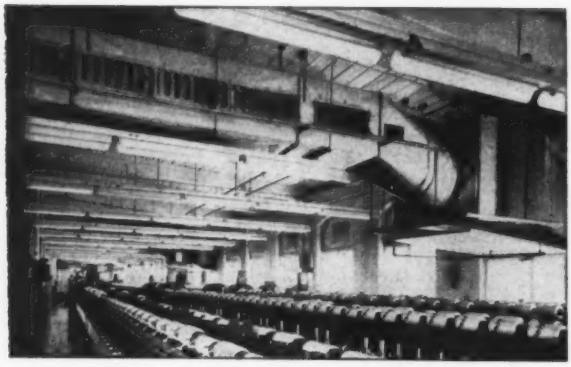
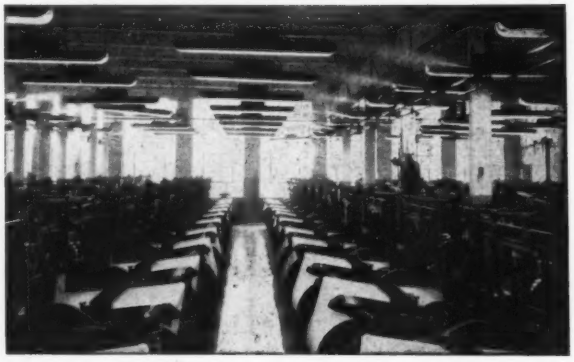
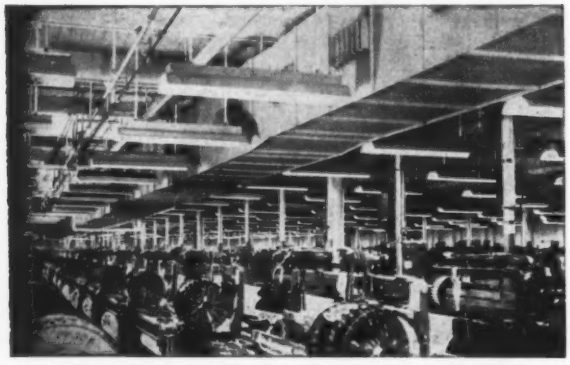
YOU know the value of closely controlled atmospheric conditions in the textile mill. OUR object is to design the best possible air conditioning apparatus and to recommend the system most suited to your requirements.



Automatic Airchanger—unit or central type.



Gradumatic Humidification.



Air Washer System—central station or ceiling type—straight or in combination with direct humidification or refrigeration.

Each system flexible and of dependable capacity.

All with Gradual Acting Psychrostat Regulation.

Engineering, manufacturing, installing by Parks-Cramer.
Complete new installations. Modernizing of existing systems.
Centralized responsibility.
Textile mill humidification and air conditioning since 1906.

Parks-Cramer Company

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Worth repeating

CUPROFIX . . .

Made possible an entirely new method for achieving fast colors on synthetic fabrics.

CUPROFIX "52" . . .

Enables the dyer to continue to deliver first grade quality at an even lower cost.

CUPROFIX AND SANDOFIX . . .

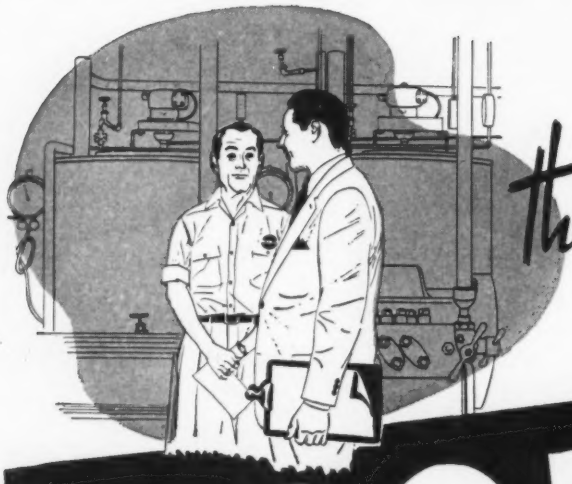
Are evidence of Sandoz' intention to remain the leaders in this field.

If you've ordered CUPROFIX 52 before, you know it's an order worth repeating. If you haven't, any Sandoz representative will be glad to show you how this improved Cuprofix helps you deliver first-grade quality at lower cost than ever before. Sandoz branches in Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y. 8.3.6

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES



the Weaver's Friend

KEESTAR PRODUCTS

VICTOR Mill Starch

Always Uniform

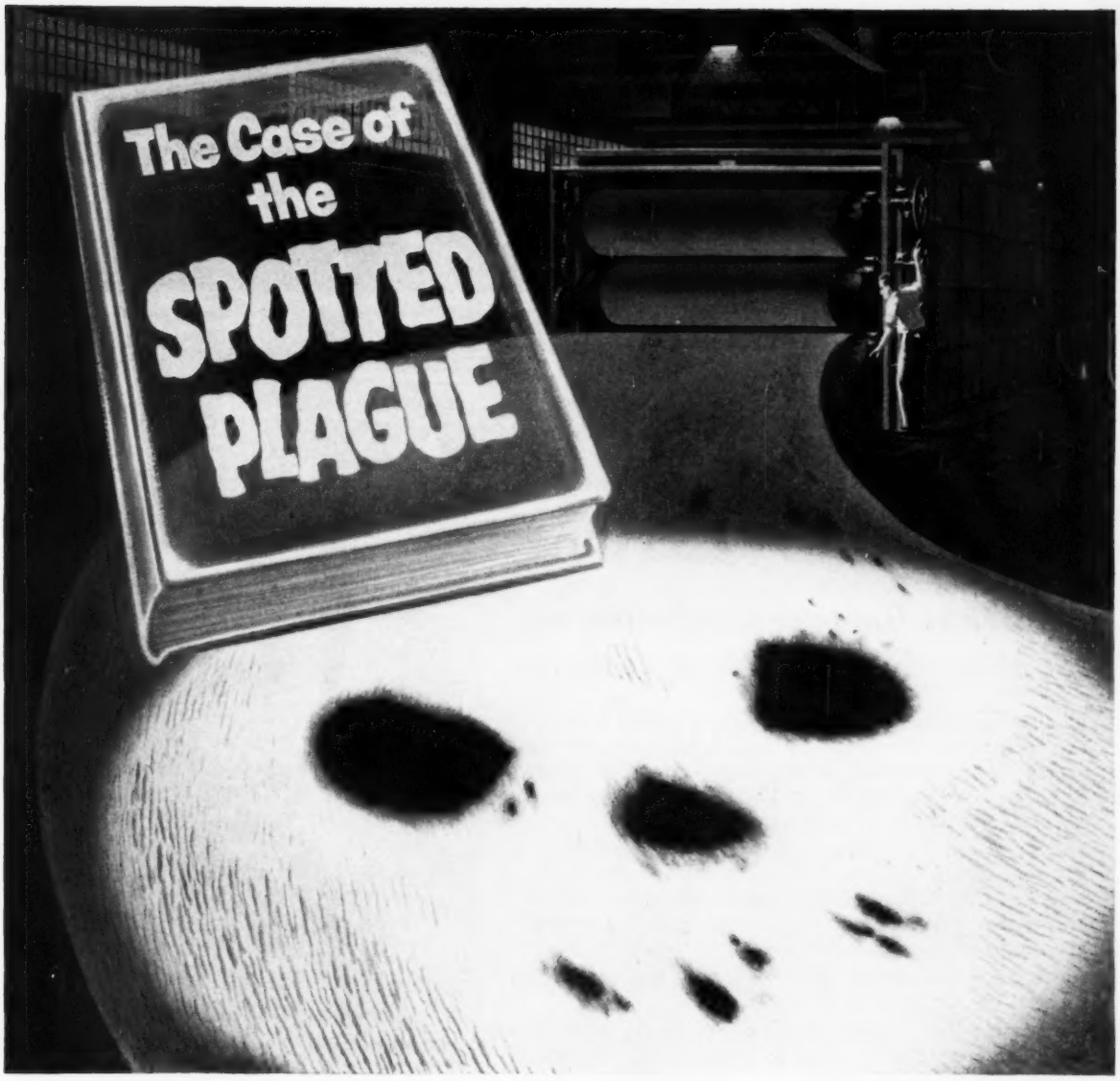
...and Backed

by Keever Service

TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Vice President

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

3-1



How Correct Lubrication cured it—and saved $10,000 a year!

Stretched taut between two endless tenter chains, the broad band of felt revolved slowly through the long, cavernous dryer. This was premium, snow-white felt, handled with special care to prevent staining. But repeatedly, despite all precautions, the felt emerged dotted with ugly dark spots.

For years, these black spots had plagued a large felt plant. They knew the cause...grease and oil, used on chains and rollers, melted under dryer heat of 240°F. and dripped down on the felt. All attempts at a cure had failed. Production loss was $10,000 annually!

Socony-Vacuum men, making an analysis of plant machinery, tackled this problem at once. After careful study they recommended special Gargoyle lubricants, set up proper lubrication schedules, trained plant personnel in new application methods. Today, at an annual cost of $30 for dryer lubricants, the company is saving the $10,000 it previously lost!

This entire plant is now protected by a program of Correct Lubrication that has improved production and cut costs in every department. Why not see what such a program can do for you?

SOCONY-VACUUM

SOCONY-VACUUM *Correct Lubrication*

FIRST STEP IN CUTTING COSTS

SOCONY-VACUUM OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

 For more information, write direct or use Reader Service post card.

AMERICAN MONORAIL LOOM CLEANER

prevents lint accumulation on looms and weave room ceilings

The first experimental loom cleaner was placed in operation by American MonoRail in 1948. A similar model was shown at the Southern Textile Exposition, Greenville, S. C., in 1949 and earlier that year was the subject of editorial mention in the textile magazines.

Since that time, much data has been gathered covering the application of loom cleaners under widely varying conditions. Not all experiments were successful. American MonoRail engineers are, therefore, fully qualified to make accurate recommendations based on actual experience.

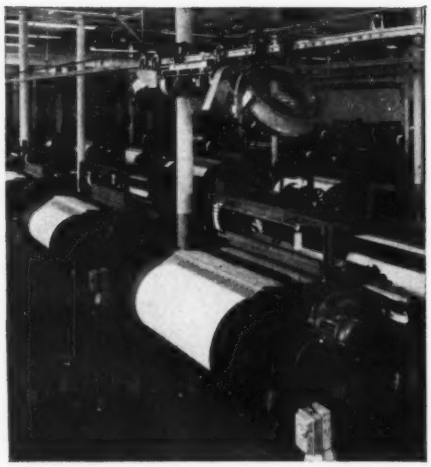
Here are a few results obtained under the conditions recorded—

Cost of cleaner installation reclaimed in 1.7 years by reduction of manual cleaning in a weave room operating at 77% humidity on synthetic yarn making fine goods.

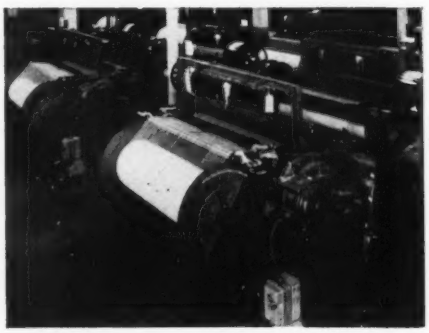
57% reduction of cleaning labor alone in weave room running over 1000 looms—90% humidity—light sizing—making gauze.

In a mill running on broadcloth, loom and ceiling cleaning over 500 looms showed an average of 1% upgrading of cloth. Cleaning labor savings pay for installation every two years.

Before you buy, make true mechanical evaluation of this equipment. Let an American MonoRail engineer offer recommendations at no obligation.



with automatic loom and ceiling cleaning 57% of manual cleaning is eliminated. Ceilings are blown-down once a month instead of every week.



without automatic cleaning lint piles up quickly. Above picture shows accumulation in 16-hour operation.

AMERICAN OVERHEAD HANDLING EQUIPMENT

MONORAIL COMPANY

13108 ATHENS AVENUE • CLEVELAND 7, OHIO

For more information, write direct or use Reader Service post card.

WHITIN Speed-Matic Winder enthusiastically endorsed

Visitors to the American Textile Machinery Exhibition held in Atlantic City April 26-30, unanimously elected the new Whitin Speed-Matic Winder the finest filling bobbin winder ever built for high quality production *at the lowest possible winding costs.*

After critical and exhaustive comparisons of all competitive winders, mill men, winder technologists, and mill executives acclaimed the speed — 12,500 R.P.M.; the completely automatic performance; the simplicity of construction; the accessibility of the easily removable sub-assemblies; the efficient special brake-clutch motor for each individual unit; and the unmatched flexibility of the Whitin Speed-Matic Filling Bobbin Winder.

For the best in filling winding at the lowest cost — it's the Whitin Speed-Matic. The *facts* show that it will produce the most profits and most quickly.

Whitin Speed-Matic Automatic Filling Bobbin Winder, Loader, and Pin Boarding Unit.

Complete description available on request to Dept. B, Whitin Machine Works, Whitinsville, Mass.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

World's First HIGH-SPEED Way to

KNIT BODIES AND SLEEVES WITH ELASTIC TRIM INCLUDED

NEW SUPREME, SINKER TOP MODEL SAAF-O PRODUCES AUTOMATIC VARIABLE STRIPE, SOLID OR PATTERNED JERSEY WITH KNIT-ON, SIMULATED RIB TRIM & DRAW THREAD SECTION SEPARATORS.

- Produces complete sections with 1 x 1 elasticized rib effect trim wherever desired and perfectly uniform selvedge for Sweater, T-Shirt, Knitted Dress, Swimwear, etc.
- Knits 38 yds. per hr. at 20 stitches per inch. Operates with extremely high knitting efficiency and low maintenance cost as featured on all Supreme knitting equipment. "Picks Up" immediately with no needle or sinker breakage.
- Draw thread provides quick, easy section separation—leaves uniform selvedge.
- Knits virtually all types of yarn including cotton, wool, Orlon. New high bulk Orlon especially applicable.
- Has all features of the SAAF-C—each feed contains 3-position pattern wheel, with new finger-tip adjustment 4-color striping box and pattern placer.
- Available in 8" to 30" diameters—WITH CYLINDERS UP TO 20 NEEDLES PER INCH.
- Standard 26" diameter machine contains up to 32 feeds with accessible 64 to 128 cone, tiered, stationary yarn stand.

See the SAAF-O in operation at the Supreme plant. Contact Supreme today.

SK-175

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KNITTING MACHINE CO., INC.
94-02 104th STREET, OZONE PARK 16, N. Y.
Southern Representative and Showroom
The Malluck Co., 711 S. Tryon St., Charlotte, N. C.

HOW Spaulding Serves the Textile Industry

SPAULDING FIBRE CO., INC. manufactures hard Vulcanized Fibre and Laminated Phenolic Plastics, and fabricates parts from these materials. Both exhibit unique combinations of characteristics that especially suit them for a wide variety of textile applications. Some of these characteristics are: smooth, snag-free surface; long life through excellent resistance to wear and abrasion; extreme light weight (one-half that of aluminum) coupled with great mechanical strength; chemical inertness and corrosion resistance.

When you need equipment or parts that should have some or all of the foregoing properties, let Spaulding serve you. Your nearest Spaulding representative will be happy to explain how parts fabricated by Spaulding from Spaulding materials reduce costs, improve efficiency.

SPAULDING PRODUCTS FOR THE TEXTILE INDUSTRY INCLUDE...

DYNAMICALLY BALANCED BOBBINS ➡
(Patent Applied For)

Headless Package Tubes, Sizing Tubes, Lap Rolls, and Kelly Rolls.

ALSO **SEPARATOR BLADES**
RECEPTACLES • LOOM PARTS

PIRN CAPS and REDRAW CAPS for Headless Package Tubes, Sizing Tubes, Take-up Bobbins, and Tubes on which "Dacron" (DuPont Trademark) is shipped.

SPAULDING FIBRE COMPANY, INC., TONAWANDA, NEW YORK

Call Your Nearest SPAULDING Branch Office or ↘

SPAULDING BRANCH SALES OFFICES

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(Woodhaven 21)
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NEW YORK 55, N. Y.
NEWARK, N. J.
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(Camden 3, N. J.)
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TONAWANDA, N. Y.
LOS ANGELES 15, CAL.
C. D. LaMoree
BERKELEY 10, CAL.
C. D. LaMoree
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MAIL COUPON FOR FULL INFORMATION

SPAULDING FIBRE COMPANY, INC.
Tonawanda, New York

We would like to know more about Spaulding Products for the Textile Industry.

Name _____

Company _____

Address _____

City _____ *Zone* _____ *State* _____ TW-7

As never before...

Today we are all aware of the disastrous and far-reaching effects of a major industrial fire. Owners . . . management . . . employees . . . customers . . . almost every one suffers, in one way or another, when a serious fire strikes.

Could it happen to your plant? Now is the time to take a long, close look at your plant's fire protection measures. Remember, the local fire protection ordinances normally only set minimum standards. Compliance with these ordinances is no guarantee of fully adequate firesafety.

One way to be absolutely sure of the efficiency of your plant's fire protection facilities is to call in an expert C-O-TWO Fire Protection Engineer. He is ready and willing to help you with any or all industrial fire hazard problems.

There is a personal sense of responsibility inherent with C-O-TWO Fire Protection Engineers that assures you of fully adequate firesafety . . . a definite plus in your behalf. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means top quality backed by experienced engineering that results in operating superiority for you at all times.

WHEN BUSINESS STOPS . . . INCOME STOPS!

Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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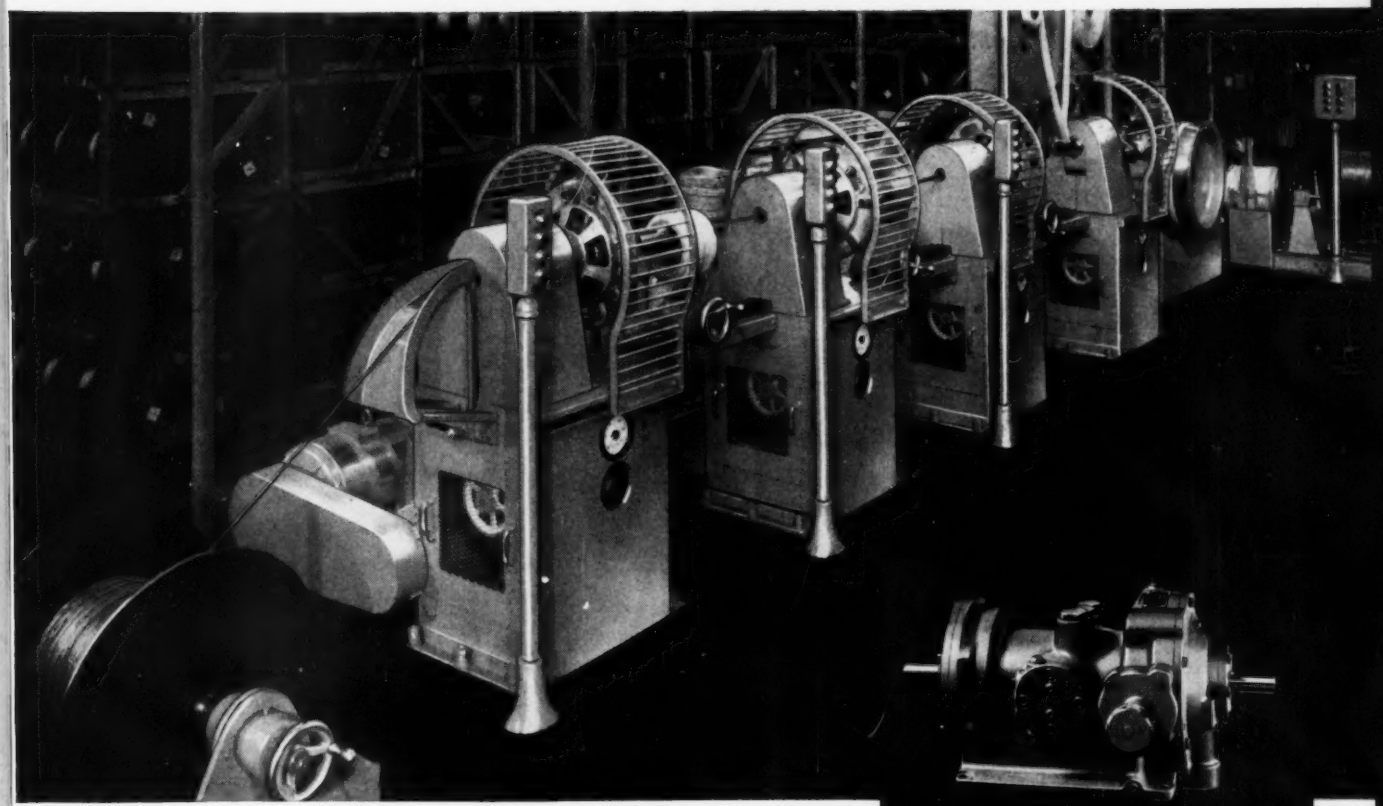
Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

MACHINE DESIGN AT WESTERN ELECTRIC



Its use of Oilgear Fluid Power

Western Electric Company, manufacturing unit of the Bell Telephone System, originates, designs and builds many of the special machines it uses in its own manufacturing processes. It also maintains unceasing pressure to improve upon machines already in operation, for optimum performance, for better product, for lower costs, for freedom from trouble.

Its use of Oilgear Fluid Power Drives and Transmissions has been increasing because, in the words of their engineers, Oilgear enables them among other things to synchronize many machine components easily and economically. A good example of all these points is the "short haul" video cable wrapping machine pictured above.

This machine was designed and built by the company's own men some years ago. For optimum performance, the speed of the heads should be easily and independently variable and the direction of rotation instantly changeable because the lay and pitch of the wrappings must be varied according to the requirements of the run. Moreover, the inside contour of the tube formed by the wrapping should be smooth and uniform so as to avoid setting up echo waves that interfere with transmission and vitiate signal strength.

Because of these requirements, a new drive was installed something over 4 years ago. A line shaft drives five Oilgear Fluid Power Transmissions, one at each machine head and the capstan.

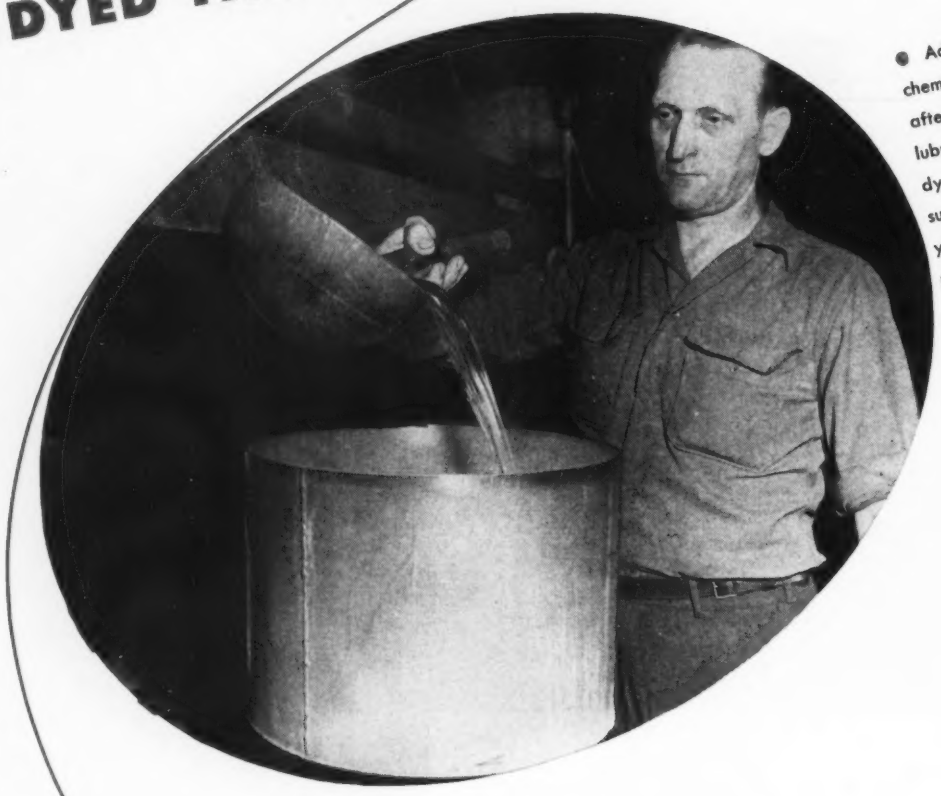
The results were these: uniformity and control of tension are so good, the machine runs at 4 times its former machine speed; it is easy to vary speed and direction of rotation of each individual head; eccentric heads gave way to concentric heads, and supply spools are now loaded to full capacity instead of ¼th to ⅛th as before; the machine is stopped less frequently for loading. Maintenance on the former drive was involved and frequent—on the Oilgear equipment it has been simple and negligible.

There is some reason to suspect that Oilgear Fluid Power with its wide range of advantages may solve some of *your* machine design problems and make the results very pleasing and profitable. Why don't you really find out? THE OILGEAR COMPANY, 1577 West Pierce Street, Milwaukee 4, Wisconsin.

OILGEAR

OILGEAR

DYED YARNS BEHAVE BETTER



● Adding Avisco textile chemicals to the last rinse after skein dyeing restores lubricant lost during dyeing . . . gives new surface qualities to the yarn that aid subsequent processing.

Especially valuable for filament yarns, Avisco lubricants improve winding . . . help make more uniform fabric . . . promote better stitch formation . . . prevent broken filaments.

WHEN LUBRICATED WITH AVISCO CHEMICALS

Lubrication, softening, static control . . . Avisco textile chemicals do all three at the same time. They're the ideal way to give fiber or yarn the surface conditioning it needs for peak processing efficiency. These stable chemicals won't wick out, migrate or turn rancid in storage. They are non-volatile . . . don't affect colors. Readily emulsified in hot water, they're 100% active materials.

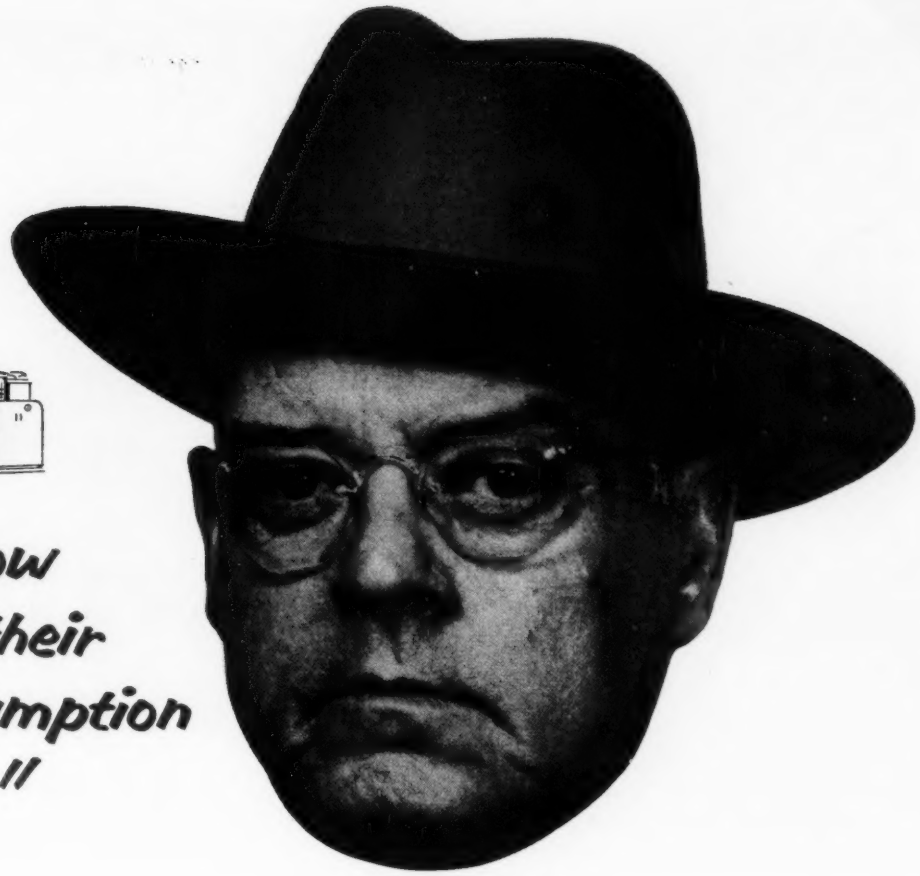
Available from Avisco is a complete selection of processing assistants for use with all natural or man-made fibers. Avisco specialists help you choose materials and techniques best suited for your own mill. Write to Textile Chemicals Division, P. O. Box 455, Marcus Hook, Pa., or Textile Chemicals Sales, 1617 Pennsylvania Blvd., Philadelphia, Pa.

Avisco textile chemicals are developed in cooperation with and are manufactured by the Atlas Powder Company, Wilmington, Delaware

Avisco

AMERICAN VISCOSE CORPORATION

America's first producer of man-made fibers



"Here's how we cut their oil consumption 35%..."

A large cotton mill in the state of Georgia was dissatisfied with their spindle oil – the cost was high *and so was consumption.* Sinclair Lubrication Engineer Lewis Kay was asked for his recommendation.

75 frames isolated...

Mr. Kay reports, "I recommended Sinclair LILY WHITE OIL AX which was much lower in price and 25% lighter-bodied than the oil being used. The overseer isolated 75 frames for a test run – and found the lighter oil not only reduced his power load but actually cut oil consumption 35%."

Test compares iron residue...

Mr. Kay continues, "Moreover, comparative lab tests on the used oils showed the competitive oil contained 4 times as much iron residue resulting from wear as LILY WHITE ... bolster wear had been cut 75% by this one Sinclair oil."

Why not give a Sinclair Lubrication Engineer the chance to help solve *your* lubrication problem. There's no obligation. Contact your local Sinclair office or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR LUBRICANTS

Because the smallest supply item affects every spindle it offers widespread opportunities . . . to improve spinning, lower end breakage, reduce waste and to upgrade quality. Worn rings as well as new rings, larger packages, higher speeds, new fibres, blends — changes like these are usually the signal for traveler changes.

Here is where Service and Quality come before price considerations. U. S. representatives possess the know-how and mill background to be of real, constructive assistance in helping you run good spinning. Finding just the right traveler for every need is not always easy. But the millions of spindles running U. S. Travelers are good proof of the fact that we stick with the problem until our customers are happy with their results. Can we be of assistance? Call on us, count on us. We welcome the opportunity to serve, and we appreciate your goodwill.

U. S. Representatives are at your service.

W. P. Vaughan, W. H. Rose
Greenville, S. C. — Box 1048 — Phone 3-0915

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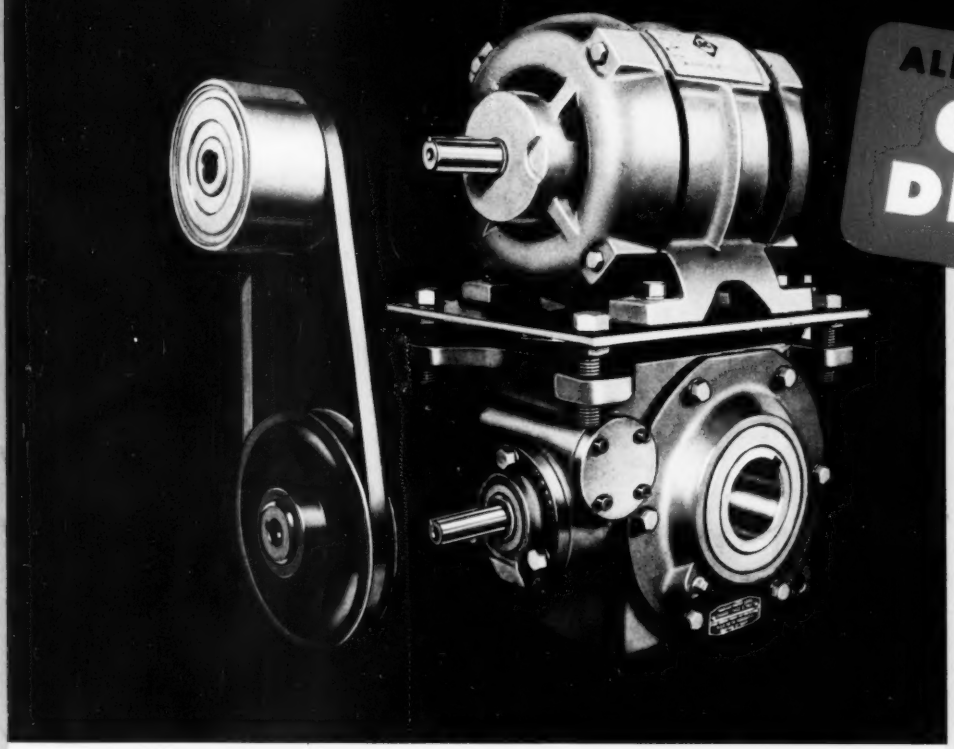
U. S. RING TRAVELER CO., 159 Aborn St., Providence, R. I.
Southern Warehouse: Greenville, S. C.

A Style and Size for Every Yarn and Fibre

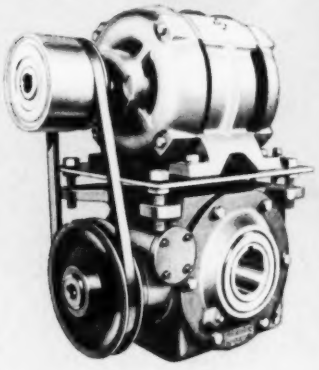
Packaged to Arrive

and Keep Perfectly



ALLIS-CHALMERS
CARD DRIVES

Quick-Clean motor used to drive gear reducer through Texrope V-belt drive and mercury clutch. Sheave is adjustable to permit cylinder speeds between 157 and 189 rpm.



Now

Control Cards Individually . . .

Make Card Rooms Cleaner and Safer!

INDIVIDUAL CARD DRIVES solve problems in cleanliness, safety and lighting created by overhead line shafting. With these drives, there is no hard-to-reach overhead structure to clean . . . no dirt and grease to drop into machines.

In addition, your plant will be lighter, cleaner and more modern looking without a forest of shafting and belting hanging from the ceiling. And, with these drives, there's plenty of room on the ceiling for air-conditioning equipment.

Changing to Allis-Chalmers individual card drives is simple. The complete drive unit mounts on your present card cylinder shaft. A torque arm attached to the card keeps it in place. It fits present aisle space. Note that there is no vibration or strain on the card arch, and weight of the drive does not overload the bearing.

Get details from your nearby A-C office, or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin for Bulletin 51B7867. A-4411

Texrope and Quick-Clean are Allis-Chalmers trademarks.

ALLIS-CHALMERS

MILWAUKEE 1, WISCONSIN

A-C ALLIS-CHALMERS

New Motor sets new standards in handling oscillating loom loads

HERE IS A loom motor specifically designed to carry the loads imposed by speeds of 200 picks per minute. Rotor, stator and bearings all are oversize to give you long life, and low operating costs.

This Allis-Chalmers loom motor is designed around the findings of a thorough research program which revealed the true nature of loom loads.

As a result, this entirely new motor will handle the rapidly oscillating load which occurs during each pick. The rotor has been made extra heavy and in the largest possible diameter to provide maximum fly wheel effect (Wk^2) to meet demands for higher and higher loom speeds.

While this motor is a completely new design from top to bottom, it has been in actual use in quantity for well over a year.

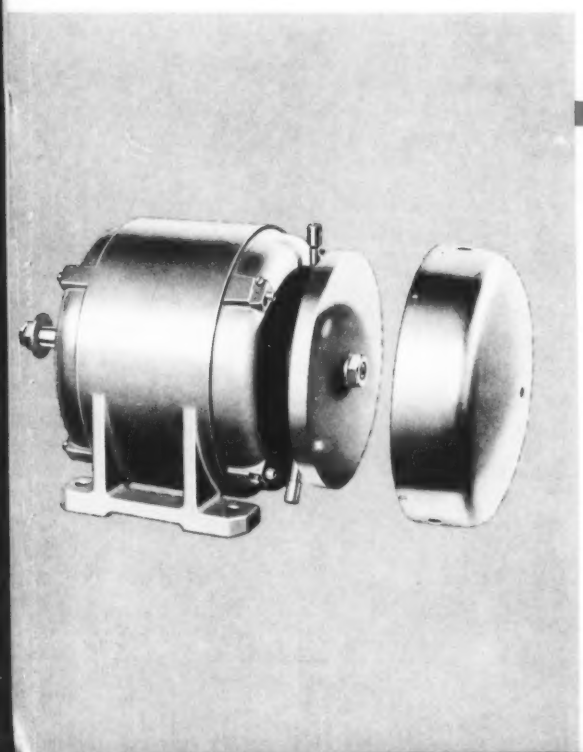
DESIGN FEATURES

1. Motor is totally enclosed, non-ventilated . . . excludes all lint from interior. Both the yoke and bearing housings are cast iron.

2. Stator is double insulated and extra large with heavy construction to meet stress of rapid load oscillation. Stator laminations are welded across back to provide rigid core.

3. Die cast rotor is of largest practical diameter. Maximum inertia in rotor plus proper design of slip makes motor operate at stable speed under pulsating load.

4. Ball bearings are oversized and of double-shielded type. (See illustration upper right.) This allows controlled migration of grease in and out of bearing, yet protects against overgreasing —the greatest cause of bearing trouble. (Optional waste-packed sleeve bearing construction shown at lower right.)



Flywheels Available for Added Inertia (Wk2)

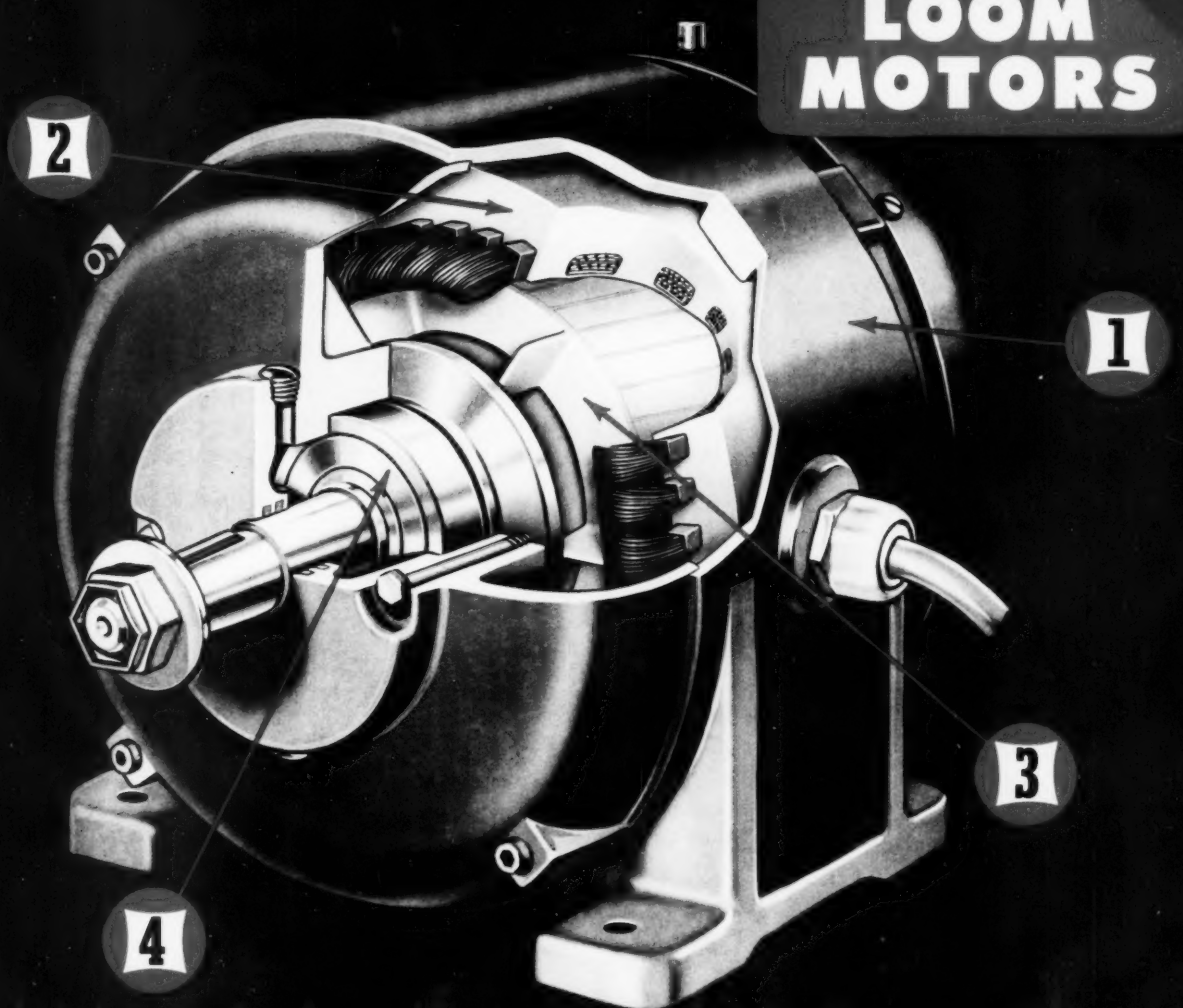
Allis-Chalmers loom motors are available in three inertia categories: more than 1 lb-ft², more than 2 lb-ft², and more than 3 lb-ft². Flywheels are available for two and three pound groups. Both of these flywheel models have the same flywheel cover and same dimensions.

Get information from your nearby Allis-Chalmers office or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin, for Bulletin 51B7111B.

A-C ALLIS CHALMERS **ALLIS-**

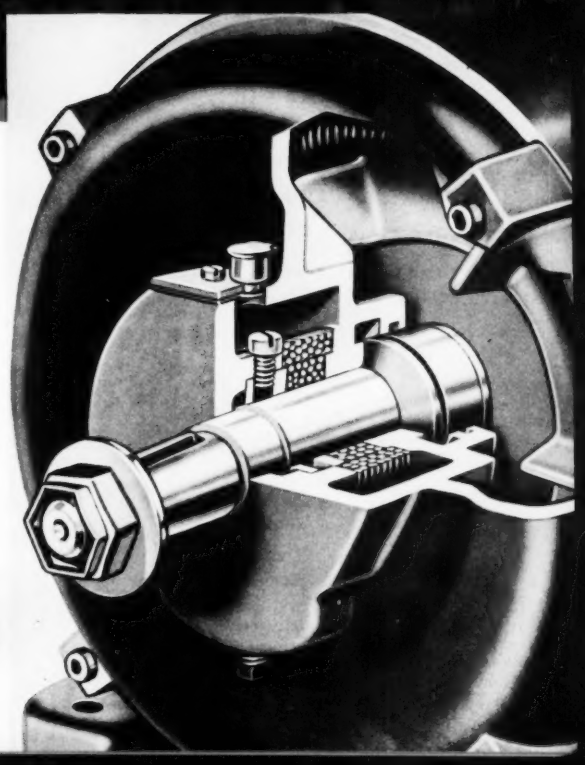
ALLIS-CHALMERS

LOOM MOTORS



Optional — Waste Packed Sleeve Bearing

Wool waste saturated with oil is used to lubricate shaft and bronze sleeve. Slot in upper side of sleeve permits waste to come in direct contact with load carrying area of shaft. Spring-lidded oil cup is provided on top side of bearing to simplify oiling. Waste can be removed easily by removing plate on top of bearing housing. Excess oil drains to outside to prevent damage to windings.

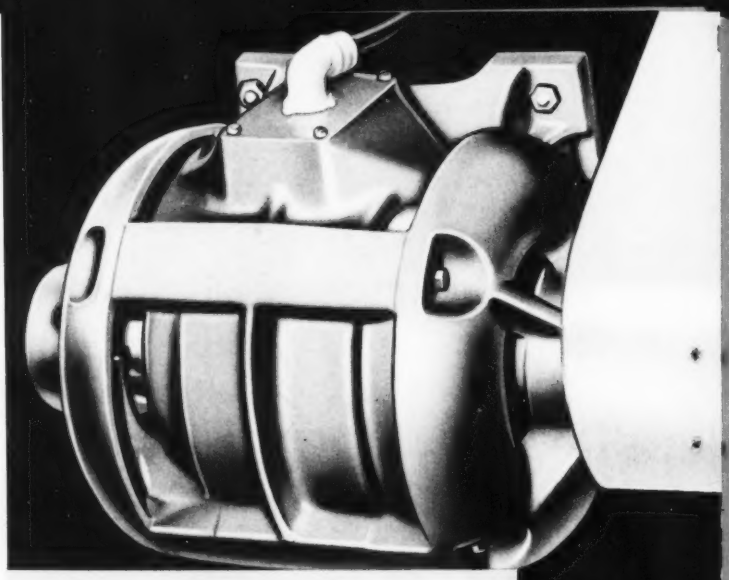


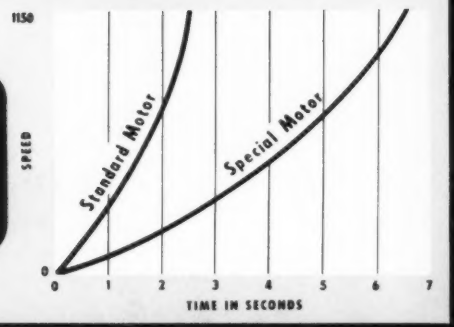
CHALMERS

Slow, Smooth Starts — Without Special Control

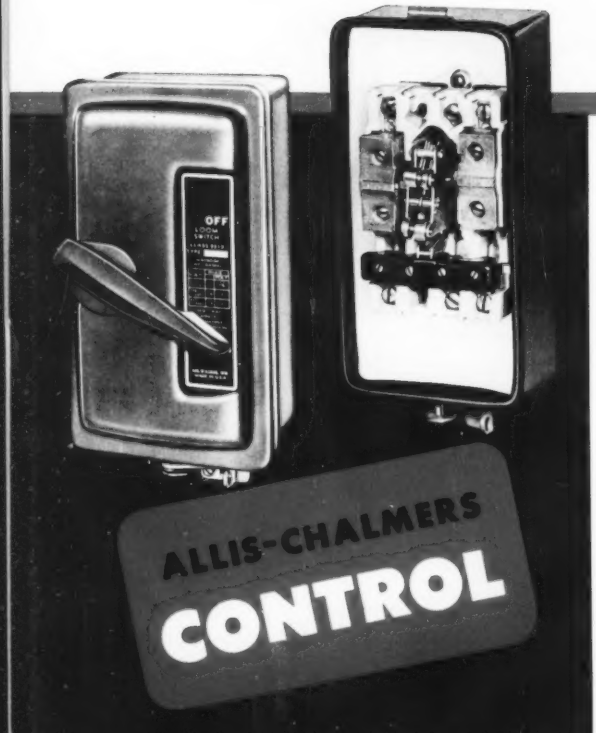
Smooth acceleration, fine jogging using Allis-Chalmers roving frame motor, reduces ends down, helps produce uniform roving. No special resistors—no acceleration reducing clutches — no special control required.

These motors take almost three times as long to accelerate as a standard motor. E-v-e-n tension is provided on the roving frame during starting periods. Special conduit box connections permit relatively high torque when required, such as during frame break-in period.





ALLIS-CHALMERS
Roving Frame Drives



ALLIS-CHALMERS
CONTROL

Get Specialized Control Engineered with the Drive

A LINE of full voltage and reduced voltage motor starters is available to meet the requirements of any type of textile motor drive.

Typical is this new loom motor manual starter. Its toggle action is preferable to push button operation for reasons of convenience when mounting starter in high or low positions.

Loom switches and slow speed starters for card drives, and roving frame drives are also available.

Solve your control problems along with your drive problems by calling an Allis-Chalmers Authorized Distributor or District Office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin.

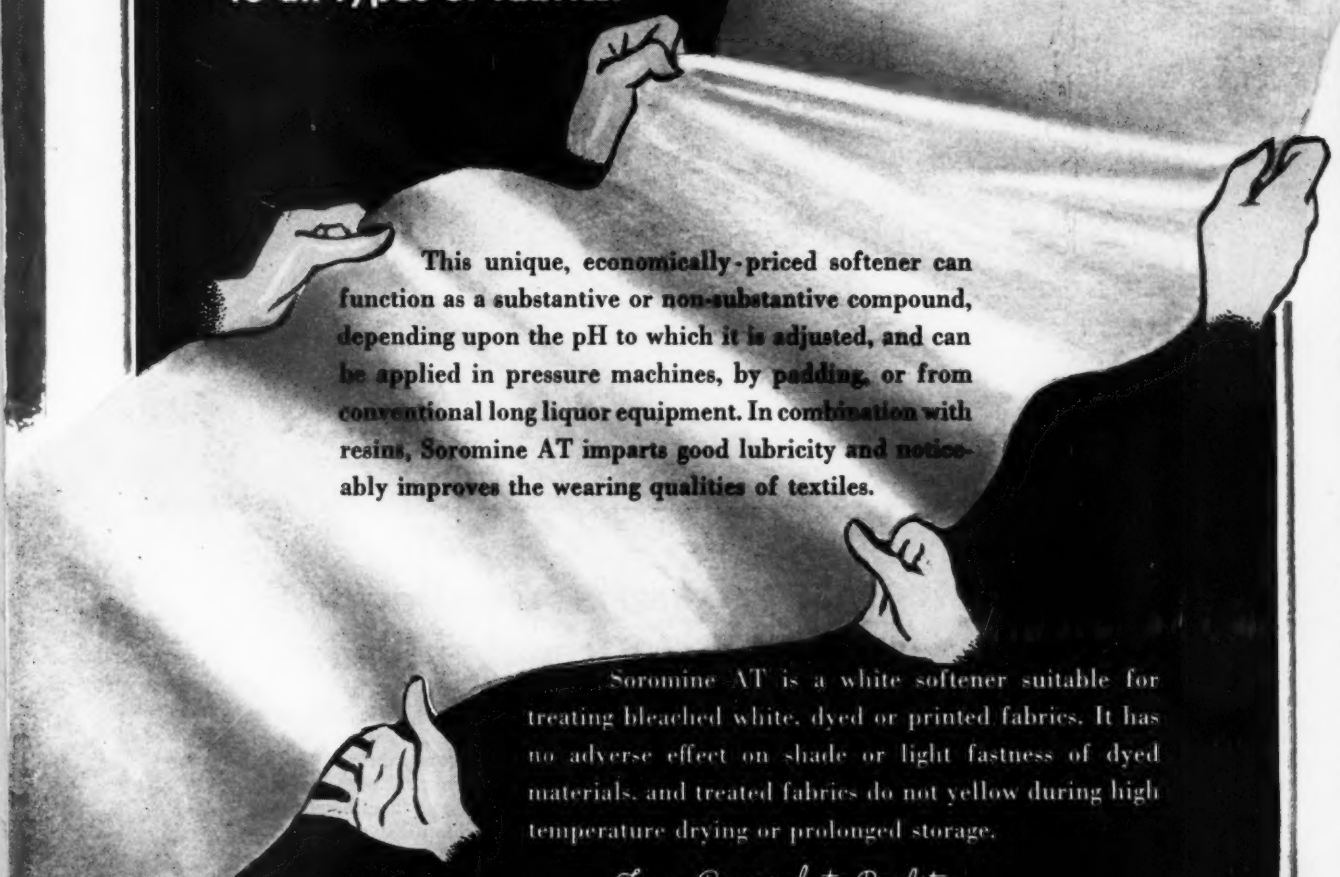
ALLIS-CHALMERS

MILWAUKEE 1, WISCONSIN

A-C ALLIS-CHALMERS

SOROMINE® AT

The new amphoteric softener that imparts a smooth, supple hand with good body to all types of fabrics.



This unique, economically-priced softener can function as a substantive or non-substantive compound, depending upon the pH to which it is adjusted, and can be applied in pressure machines, by padding, or from conventional long liquor equipment. In combination with resins, Soromine AT imparts good lubricity and noticeably improves the wearing qualities of textiles.

Soromine AT is a white softener suitable for treating bleached white, dyed or printed fabrics. It has no adverse effect on shade or light fastness of dyed materials, and treated fabrics do not yellow during high temperature drying or prolonged storage.

From Research to Reality

ANTARA CHEMICALS

ANTARA gaf

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET · NEW YORK 14, NEW YORK

SALES OFFICES: New York · Boston · Providence · Philadelphia · Charlotte · Chattanooga · Chicago
Portland, Oregon · San Francisco · IN CANADA: Chemical Developments of Canada, Limited, Montreal

Mail the coupon today for complete information on Soromine AT

ANTARA CHEMICALS, 435 Hudson Street, New York 13, N. Y.

Please send me your booklet on Soromine AT

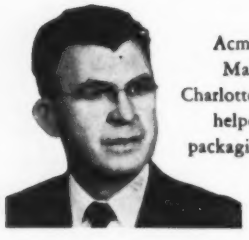
NAME _____

POSITION _____

COMPANY _____

ADDRESS _____

AIM* for INCREASED packaging productivity with Acme Steel Strapping Ideas



Acme Idea Man, Mark Brown of Charlotte, N. C., has helped solve this packaging problem.

ask your
*Acme Idea Man
to help solve your
problems

Acme Steel Strapping Idea #402 for securing tire fabric helps keep shipments at Firestone Textiles, Gastonia, N. C., abreast of continuous production schedules. The bulky rolls of tire cord fabric, five feet long and up to 36" in diameter, are covered with burlap and then firmly bound with steel strapping. Acme Steel Strapping, as used in this one operation, makes it possible for two men to package ten to twelve 1300-pound rolls an hour. This application of Acme Steel's strapping methods and tools at Firestone reduces materials handling and shipping costs and makes sure merchandise will arrive undamaged.

Your Acme Steel Idea Man is a specialist in all problems involving materials handling. He's always ready to help save time and money in your shipping and packaging operations. Call him —or write Acme Steel Products Division, Dept. TW-EE-74, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

AIM *For Safe, Lower-Cost Shipping*

ACME STEEL

CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY

for Statesville

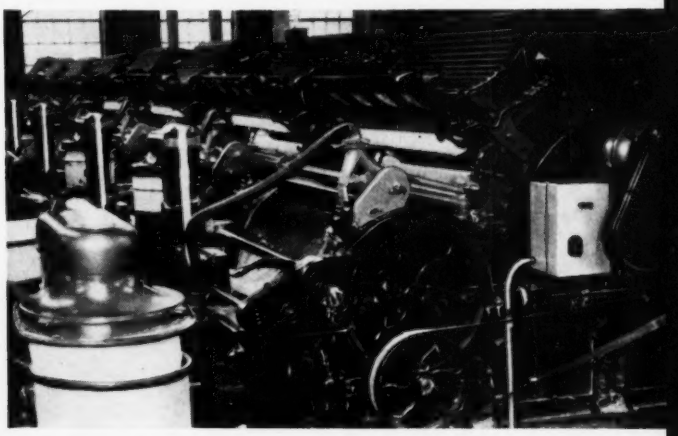
Cutler-Hammer Combination Starters on drawing frames. STATESVILLE DIVISION, The Seminole Mills, Statesville, N. C.

What this name means

To the men who have had experience with various makes of motor control under the trying conditions and exacting requirements of textile manufacturing, the name Cutler-Hammer means utmost dependability. They have found this dependability far more than a mere competitive claim. They have found it a fact that can stand out in a mill's production records to reflect favorably on their own ability and good judgment in replacing other makes with Cutler-Hammer Motor Control. And they know from experience that Cutler-Hammer dependability is not an occasional happenstance . . . that it is the earned advantage of the longest and most intensive specialization in motor control engineering. They also know Cutler-Hammer can furnish any type of control required, from the simplest starter to the most complex of electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1457 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H



for Charles H. Bacon Company

Cutler-Hammer Card Controllers on cards in mill of Charles H. Bacon Company, Lenoir City, Tennessee.

for Springs Cotton Mills

at Kershaw, S. C., plant. Cutler-Hammer Loom Switches for each group of 10 looms are here mounted in single enclosures on adjacent building columns above mill traffic. Note also single combination starter installed ahead of each group.

NEW CUTLER-HAMMER LOOM SWITCH

with NEMA 1A Lint-Tight Gasketed Enclosure

Approved by Factory Mutual Laboratories for use in F. M. insured plants as recommended by the F. M. Engineering Division.

Pushbutton operation —an achievement for this type of starter. Stop button can be padlocked.

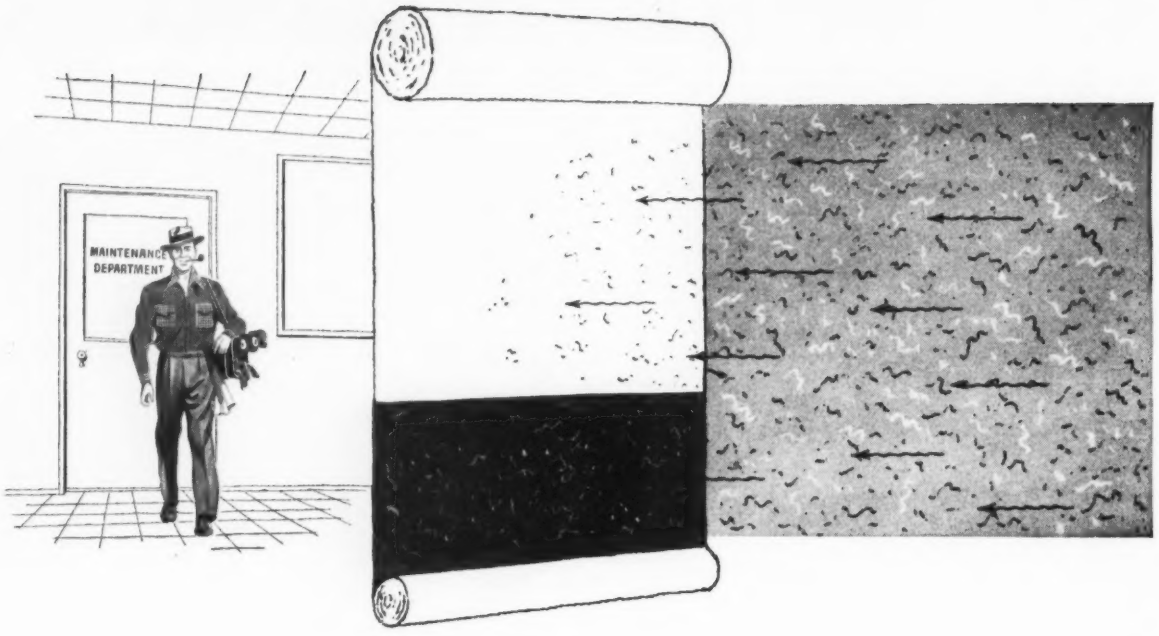
Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical shock.

New NEMA 1A lint-tight gasketed enclosure prevents entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

Vibration resistant. Mechanism "floats" in truly effective *live rubber* mounting bushings.

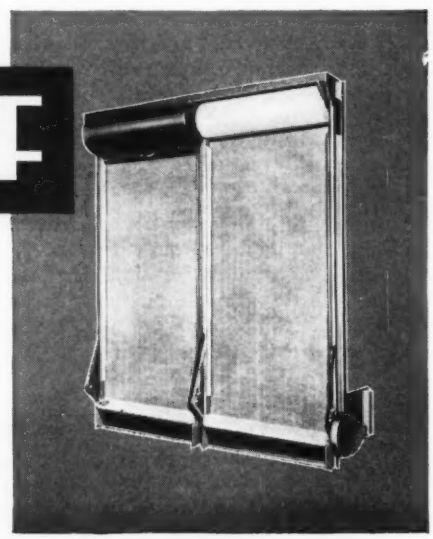


No More Lint... NO MORE OVERTIME MAINTENANCE

AUTO-AIRMAT—the "lint hungry" automatic air filter that will work 24 hours *every* day banishing lint from the recirculated air in ventilating systems. This is one of the famous family of AAF filters—and was especially designed for the job. It is the only automatic self-cleaning lint filter on the market. It soon pays for itself by beating costly week-end maintenance on lint-clogged humidifiers, washers and precipitators. The self-cleaning AUTO-AIRMAT rolls up collected lint automatically, ready for easy disposal. We invite inquiries. Please write for Experience Reports.

Expect the Best from...

American Air Filter
COMPANY, INC.
304 Central Avenue, Louisville 8, Ky.
American Air Filter of Canada, Ltd., Montreal, P. Q.



This is a photograph of the AUTO-AIRMAT . . . the only self-cleaning lint filter developed especially for textile mill service. The AUTO-AIRMAT can be installed in Double V banks to conserve space. Manual maintenance is reduced to a minimum. Here, in one complete unit, is the best answer to costly overtime maintenance that reduces profits in textile mill operation.

Keep them spinning clean and free

with Gulfspin

Gulfspin works three ways to keep spindles clean. First, it's oxidation stabilized to resist sludge formation. Second, Gulfspin prevents contaminants from depositing on spindle parts. Third, Gulfspin provides effective protection against rust, especially important in cast-iron bolsters where rusting causes bolster wear.

Because deposits are not a problem with Gulfspin, spindle vibration is kept to a minimum and dampening devices function normally.

And you reduce power costs with Gulfspin! Ordinary spindle oils often thicken after a few months of service, resulting in about one watt per spindle increase in power consumption. Not so with Gulfspin! This outstanding oil shows no increase in viscosity after many months of service.

Won't you give us a chance to prove the advantages of Gulfspin on at least one of your frames. Write, wire, or phone your nearest Gulf office and ask a Gulf Sales Engineer to call.

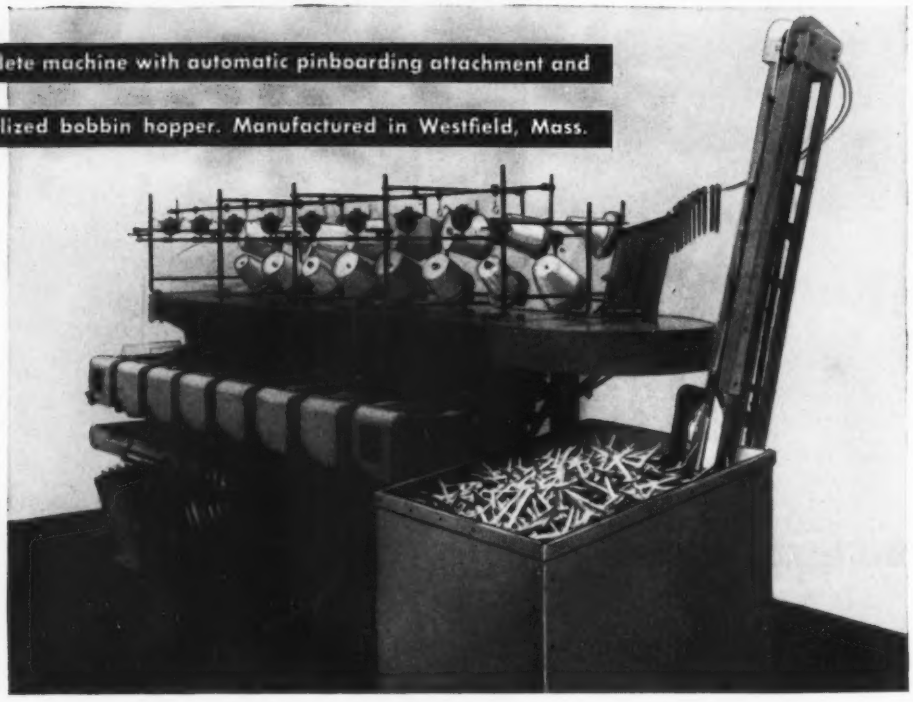
GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation • Gulf Refining Company

Gulf Building, Pittsburgh 30, Pa.

FOSTER-MUSCHAMP

MODEL 66 AUTOMATIC FILLING WINDER



Complete machine with automatic pinboarding attachment and centralized bobbin hopper. Manufactured in Westfield, Mass.

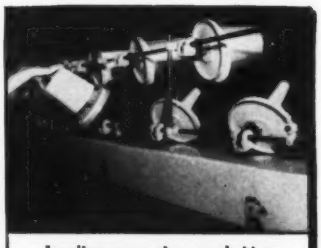
IT WILL WIND 5000 LBS. NET PER 8 HR. SHIFT FOR 19 MILLS PER LB. OF YARN QUILLED

That's because it provides automatic bobbin donning, doffing and replenishing, automatic pinboarding, or filling box stacker and magazine creeling and winds at 15,000 R.P.M.

Even with this extraordinary rate of production, it will wind the most delicate filament yarns, as well as ordinary spun yarns, without damage to their original quality and will produce practically perfect bobbins.

Furthermore, the machine is highly flexible. Not only will it wind all counts and types of yarn, but will also wind different counts and colors on different spindles of the same machine at the same time.

Learn more about this machine which will produce three times the poundage of most competing automatic equipment. Send for Bulletin M-4.



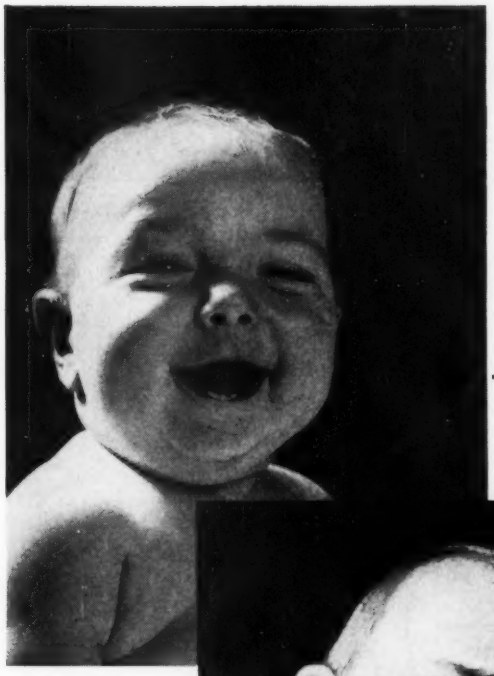
Loading magazine creel. Note cone holder swings back for easy donning and doffing.

Empty bobbin ready to move into position. Note close delivery thread guide and feelerless build.

FOSTER MACHINE COMPANY

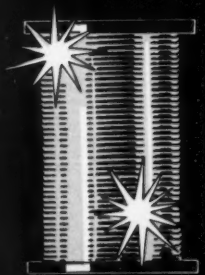
Westfield, Massachusetts, U.S.A.

Southern Office—Johnston Bldg., Charlotte, N. C.



I called the --METLON man!

---I didn't!



METLON

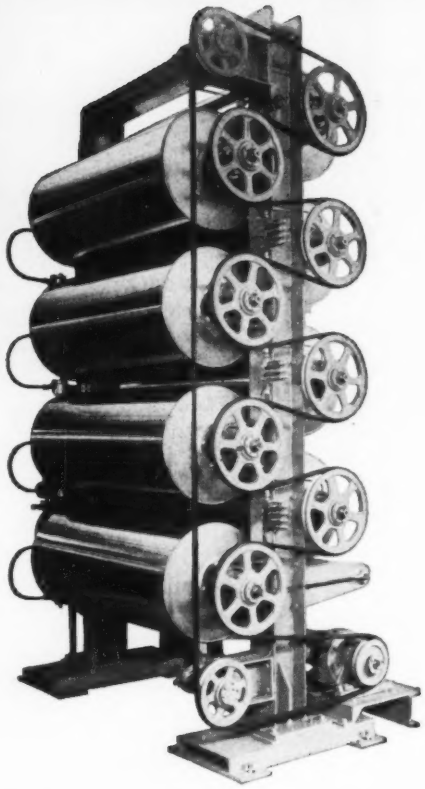
the non-tarnishing metallic yarn

Metlon has a reputation for knowing metallic yarns.
Our sales engineers are specialists;
they know what can and has been done with
metallics. They also know what can't be done.
More important, they are as near to you
as your telephone (or mail box).
Just phone (or write) Metlon, and you'll be getting
the best metallic know-how in the country,
without cost or obligation.

Metlon Corporation,
432 Fourth Ave., New York 16, N. Y., Tel.: MU 3-5962
A Division of Acme Backing Corporation

 For more information, write direct or use Reader Service post card.

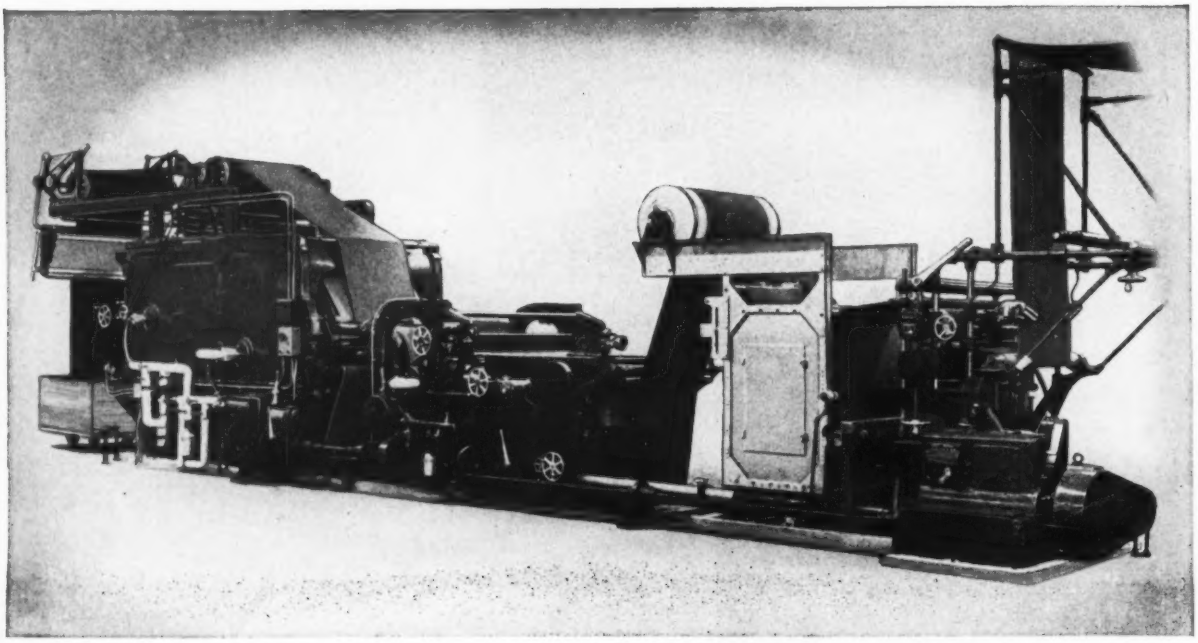
They were the Hit



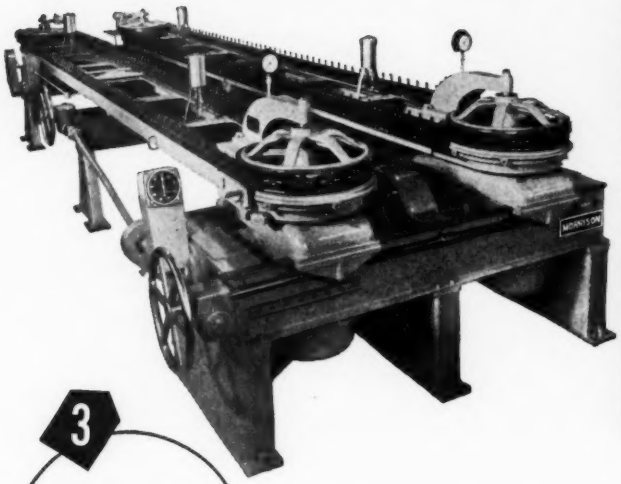
These New and Improved Morrison Machines Attracted Considerable Attention at the *ATLANTIC CITY SHOW* Among Potential Users Throughout the Trade

1 Dry Cans featuring our new V Belt Drive.

2 Latest in Rubber Belt Type Compressive Shrinking Machine.

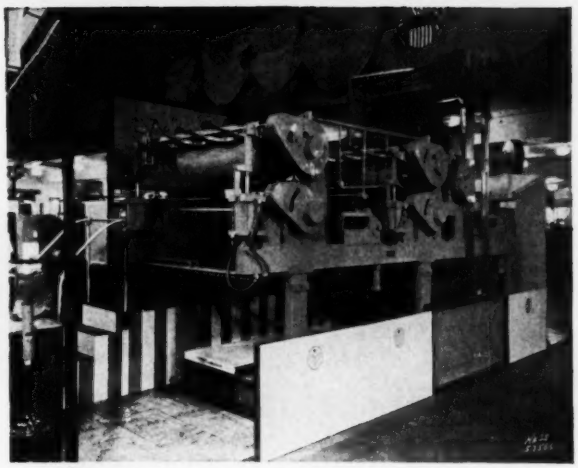


of the ATLANTIC CITY SHOW!



3

Modernized Tenter, featuring new (novel type) easing arrangement and clips (patent applied for).

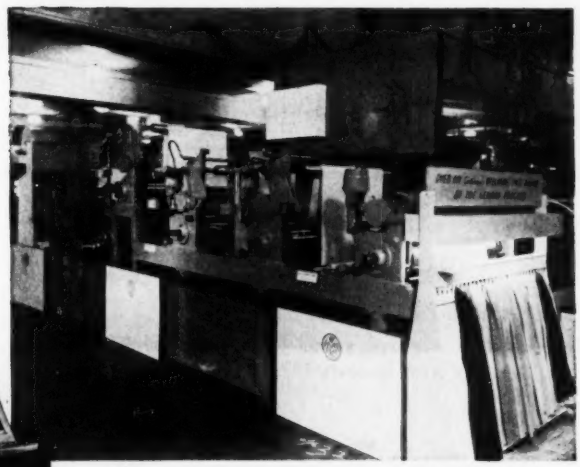


5

William's Continuous Fiber Processing Machine for processing certain stocks using direct colors on a single unit.

Stainless Steel High Speed Tight Strand Washer with 4-ton pneumatic nip.

4



6

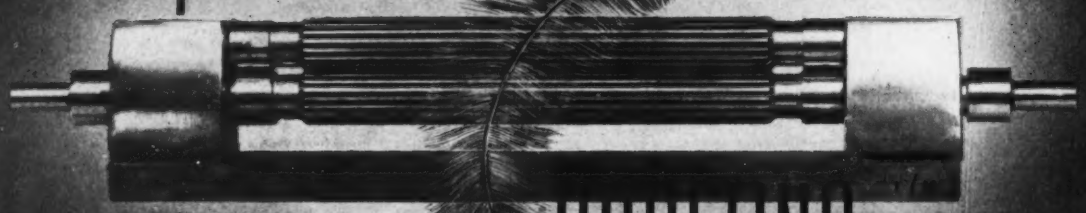
Genray Process for continuous vat dyeing of heavy shades especially designed for short runs.

MORRISON MACHINE CO.

1171-1225 MADISON AVENUE, PATERSON 3, N. J.

NOW...

Feathertouch



IDEAL HIGH SPEED

BALL BEARING DRAWING*

DRAFTING

Can't Damage Stock

Ideal's patented ball bearing spacing sections carry all the weight of the rolls. Free-floating fluted top rolls give only a light feathertouch to the sliver as it runs through . . . automatically evening thick and thin places. You cannot crush, bruise, or cut fibres . . . you cannot damage stock in any way . . . with Ideal's Feathertouch Drafting.

Permanent Protection

These ball bearing spacing units transmit no resistance and consequently never wear to throw the rolls out of alignment. They deliver Feathertouch Drafting month after month . . . year after year . . . without requiring maintenance or adjustments.

Plus Production Economy

Ideal Drafting Systems permit continuous high speeds formerly considered impossible. These high speeds further improve quality by delivering stock to the cans while still warm, thus permanently setting the crimp. And Ideal Drafting costs less to buy, less to run, and less to maintain.

Only Ideal gives you Feathertouch Drafting. Investigate its many advantages today.

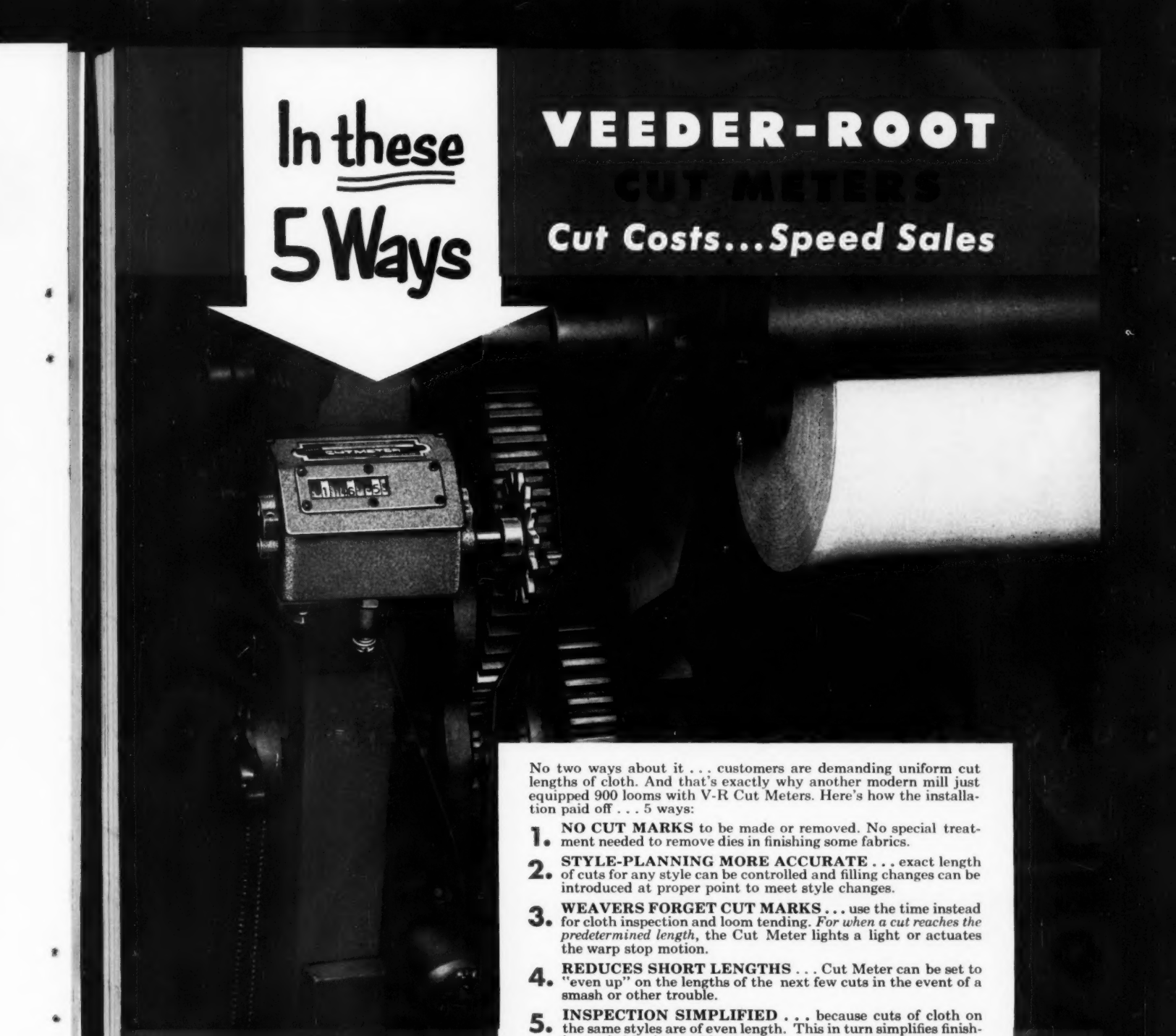
Ideal **Industries, Inc.**
Bessemer City, N. C.

*Patent Nos. 2,610,363, 2,490,544; 2,412,357. Other patents pending.

In these 5 Ways

VEEDER-ROOT CUT METERS

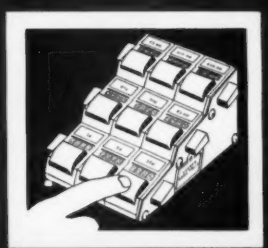
Cut Costs...Speed Sales



No two ways about it . . . customers are demanding uniform cut lengths of cloth. And that's exactly why another modern mill just equipped 900 looms with V-R Cut Meters. Here's how the installation paid off . . . 5 ways:

1. **NO CUT MARKS** to be made or removed. No special treatment needed to remove dies in finishing some fabrics.
2. **STYLE-PLANNING MORE ACCURATE . . .** exact length of cuts for any style can be controlled and filling changes can be introduced at proper point to meet style changes.
3. **WEAVERS FORGET CUT MARKS . . .** use the time instead for cloth inspection and loom tending. *For when a cut reaches the predetermined length,* the Cut Meter lights a light or actuates the warp stop motion.
4. **REDUCES SHORT LENGTHS** . . . Cut Meter can be set to "even up" on the lengths of the next few cuts in the event of a smash or other trouble.
5. **INSPECTION SIMPLIFIED . . .** because cuts of cloth on the same styles are of even length. This in turn simplifies finishing and shipping problems.

Customers can be *sure* they'll get uniform cut lengths from mills equipped with Veeder-Root Cut Meters. And that's why more and more mills are giving their customers this assurance which speeds sales. How about *your* mill? Just get in touch with the nearest Veeder-Root office.



VEEDER-ROOT INCORPORATED

"The Name That Counts"

HARTFORD 2, CONNECTICUT • GREENVILLE, S. C.

Chicago 6, Ill. • New York 19, N. Y. • Montreal 2, Canada • Dundee, Scotland • Offices and Agents in Principal Cities

Research... cornerstone of advanced instrumentation

RESEARCH is a job that never ends. This holds particularly true in the field of instrumentation, for every advance in manufacturing procedures brings a demand for better techniques for measurement and control.

But research, to fulfill its true function, must do more than keep pace with progress. In Honeywell's Industrial Division, research points far beyond today's frontiers. Here, skilled scientists are intensively engaged in programs that are developing solutions not only for present problems, but also for the much more demanding applications of the future. Drawing on the related sciences of physics, electronics, metallurgy, chemistry and nucleonics, they are helping to bring instrumentation into its own as a new and essential science. Fundamental research, which attacks control problems in their most basic aspects, is supplemented by development studies to evolve practical equipment for factory use. Working in close cooperation with research, Honeywell application engineers translate new developments into working systems, custom-fitted to today's process requirements.

Covers all phases of control

Each of Honeywell's several laboratories works in specialized but related phases of instrumentation.

The primary elements laboratory, for example, searches into ways to improve the performance of today's elements—and to utilize the latest scientific discoveries in producing new detecting devices with greater range, speed, flexibility and accuracy.

In the precision measurement laboratory, Honeywell's own "Bureau of Standards" performs the most exacting electrical and mechanical measurements to provide precise evaluation of new developments.

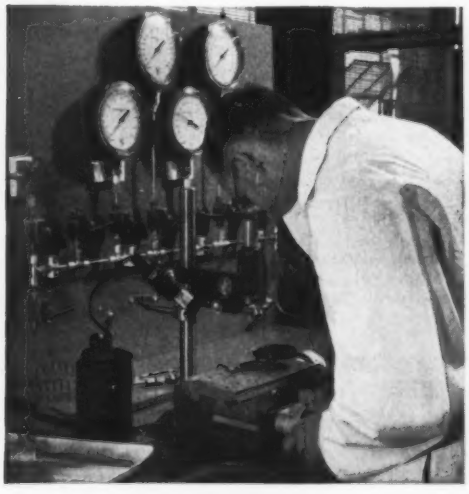
The nuclear engineering laboratory develops specialized techniques of measurement and control essential to the nation's accelerated atomic energy program.

The servomechanisms laboratory studies the techniques which will be needed to control the "automatic factory" of the future . . . operates processes in miniature, and analyzes their control performance.

What of tomorrow?

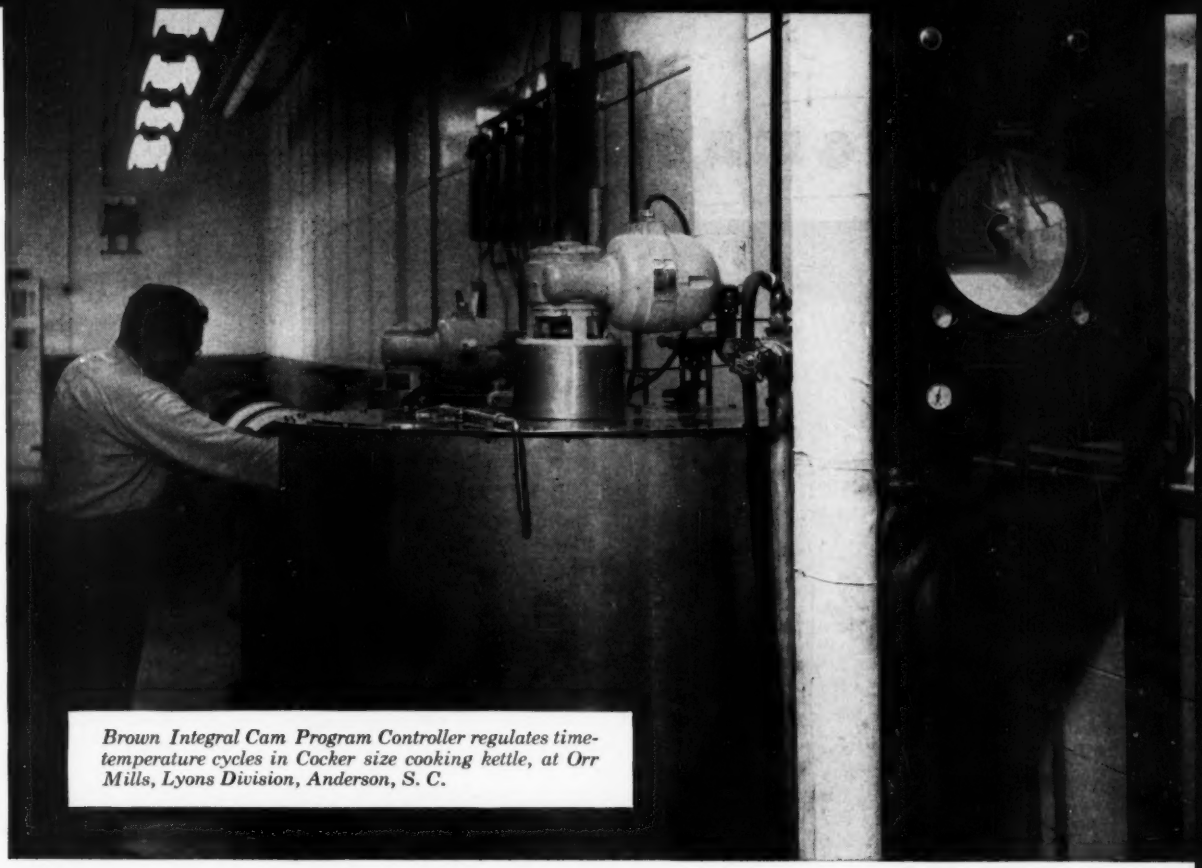
To the instrument user—in factory or laboratory—Honeywell's research has twofold significance. It assures continued refinement of instrumentation for the measurement and control work that's to be done today. And it promises new and revolutionary equipment from Honeywell . . . "First in Controls" . . . for the increasingly important role that instrumentation will play in tomorrow's world.

Space-saving, *for kettle*



PRECISION MEASUREMENTS *aid study of new pressure measuring elements.*

NEW CONTROL TECHNIQUES *are developed in the servomechanisms laboratory.*



Brown Integral Cam Program Controller regulates time-temperature cycles in Cocker size cooking kettle, at Orr Mills, Lyons Division, Anderson, S. C.

cost-cutting control *time-temperature programs*

THE Brown Integral Cam Programmer sets new standards for compactness and flexibility of time-pattern control for dyeing and size cooking kettles. This single instrument now does the work that formerly required two to four separate units!

Housed in one case is the entire system for recording and automatically regulating two independent temperature programs. Program cams are mounted integrally with the controller. There is a separate recording pen and cam for each controlled variable. Cams can rotate at the same or different speeds, over a range from ½ hour to 24 hours per revolution.

Either electric or pneumatic control can be provided. The controller can operate signals at critical points in the cycle, and will automatically shut off the kettles at the end of the program.

Cams are readily cut to the desired contour on calibrated discs of clear plastic, through which the process record is readily visible at all times. Changing cams or chart does not interrupt control.

Our local engineering representative will gladly discuss how you can get better control in less space and at lower cost with this versatile instrument. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Pa.

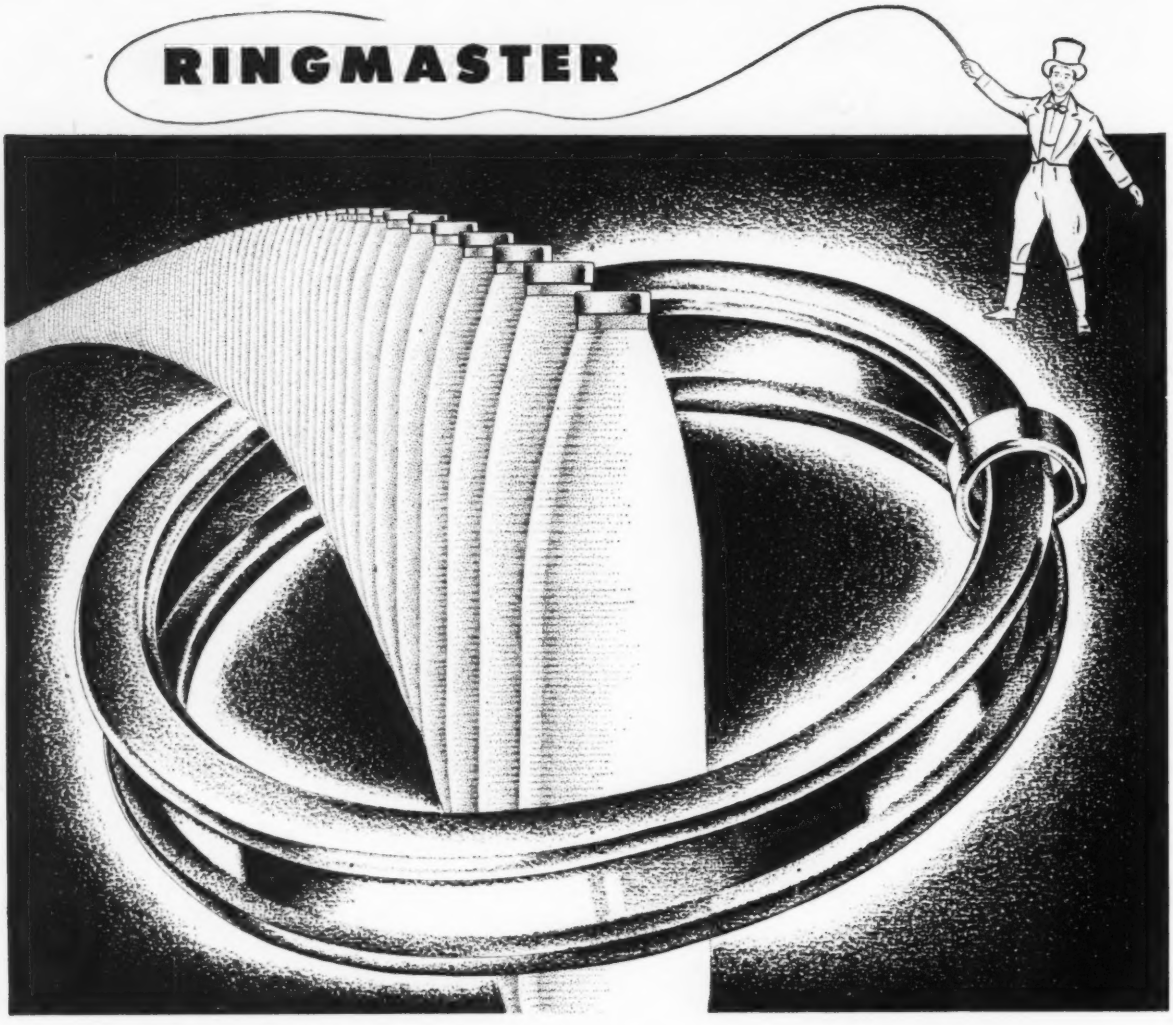
● **REFERENCE DATA: Write for Catalog 6020, "Cam Programmer Thermometers."**

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS

First in Controls

RINGMASTER



. . . of more than 12,000,000 smooth-running spindles!

TODAY, Victor Travelers ride the rings on more than 12,000,000 spindles, after 50 years of steadily increasing preference among the nation's ablest millmen. The reasons are clear.

First, consider cost. Since the true measure of a traveler's worth is in the number of pounds of yarn it spins or twists in its lifetime, millmen prefer those that *cost the least per traveler-pound.*

Victor Travelers consistently deliver more pounds of top-quality yarn — under the toughest conditions — at the lowest possible cost per traveler-pound.

Second, consider design. Whether a mill runs conventional fibers, synthetics, or blends, there is always one traveler that is *right* for the work being processed. Victor service saves you valuable time in selecting that *right* traveler — in setting up the smooth-running spinning or twisting desired.

You'll find that a mill-trained Victor Service Engineer has the ability to analyze problems quickly — to recommend the *right* traveler. Also, whatever its description, you can be sure its available among the more than 15,000 Victor styles and sizes.

One more reason . . . Victor service is prompt as well as dependable. Try it. Just phone, wire, or write the nearest Victor office.

VICTOR Ring Travelers

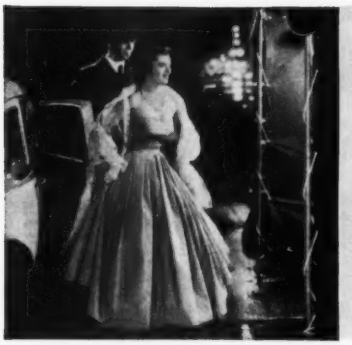
VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

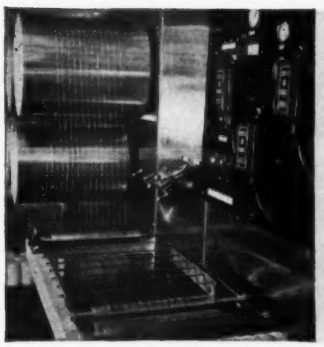
GASTONIA, N. C. . . . . 914-916 East Franklin Avenue . . . Tel. 5-0891

Research and experience... yours for the asking with

Monsanto's 3-point service in warp sizing



1. *Monsanto's comprehensive line of warp sizes* includes Stymer* LF for loom-finished acetates, such as this taffeta which won't water-spot; Stymer R for newest synthetic fibers; and Stymer S for rayon and synthetics.



2. *Unique development and evaluation facilities,* such as this Monsanto-planned slasher, reproduce modern mill conditions in the laboratory. They permit testing of synthetic resins as warp sizes under realistic circumstances.

3. *Monsanto's experienced personnel,* both in the laboratory and in the field, bring years of practical experience to your problems. They have pioneered many basic developments in the textile industry.

You're invited to take full advantage of Monsanto's 3-Point Service, combining the latest in warp size technology with years of field experience.

Monsanto's Service is based on a comprehensive line of warp sizes, developed and tested under mill conditions by the use of such unique equipment as the slasher shown here. It includes the advice of trained Monsanto personnel, both in the field and in the laboratory.

For complete information on Monsanto's line of warp sizes . . . and the help of our experienced technical and sales people . . . just call, wire or write
MONSANTO CHEMICAL COMPANY
Springfield 2, Mass.

*Stymer: Reg. U. S. Pat. Off.

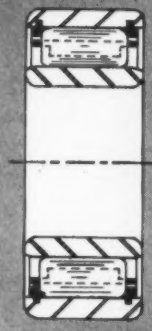
MONSANTO

SERVING INDUSTRY . . . WHICH SERVES MANKIND

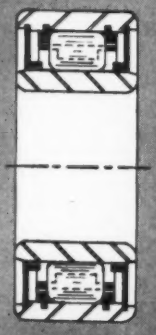
For more information, write direct or use Reader Service post card.

How Rollway Bearing *Adaptability* Can Cut Your Costs

Rollway's Adaptability Solves Sealing Problem



Question was raised on textile machine bearing installation: "Can oil seal be incorporated *without increasing bearing width?*"



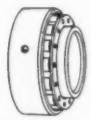
Solution: Standard narrower retainer with rollers of sufficient load capacity substituted — providing space for inner and outer oil seals. Standard width outer race readily machined for snap ring and sealing ring grooves.

Lint. Load. Over-load. Torque. Temperature. Space. Speed. You name the textile bearing requirement; Rollway can meet it.

In fact, there's almost no limit to the number of factors Rollway Bearings are now adapted to — or can be adapted to.

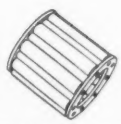
Using adaptations of sizes and types, Rollway engineers can often design bearings for out-of-the-ordinary applications. And, since all components involved are standard production items, such installation can be made at little or no extra cost.

Rollway engineers will be glad to help you in your efforts to lower your bearing costs. *Isn't it worth a try?* No charge, no obligation — simply write, phone or send prints. Rollway Bearing Co., Inc., Syracuse 4, New York.



Steel cage, metric series—solid races.

Steel cage, inch series — planished sleeve.



Steel cage, inch series — no races.

Steel cage, heavy duty — contoured guide lips.

ROLLWAY
BEARINGS
COMPLETE LINE OF RADIAL AND THRUST CYLINDRICAL ROLLER BEARINGS

SALES OFFICES: Syracuse • Boston • Chicago
Detroit • Toronto • Pittsburgh • Cleveland
Milwaukee • Seattle • Houston • Philadelphia
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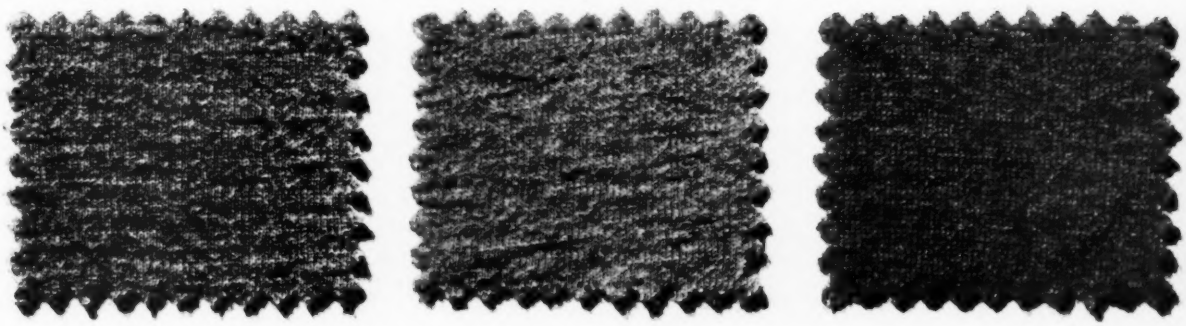
Dyeing "ORLON"*-wool blends?

You can get . . .

balanced shades in union dyeings . . .

striking contrasts with cross dyeings . . .



subtle shades for tone-on-tone or white heathers . . .

with Du Pont's new range of basic dyes

Du Pont Dyes

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

These colors—applied to "ORLON" Type 42 staple—stain wool only slightly. Therefore, when used with acid or chrome colors for the wool, "ORLON"-and-wool blends can be dyed in single-bath applications.

The sample swatches above give an indication of some of the new, bright shades you can achieve for these blends. The colors will show good light fastness and excellent wet fastness. If you are working on "ORLON"-and-wool blends—or plan to—be sure to get further information on this new range of basic dyes. For information, or for technical help with coloring problems, write to E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

*"ORLON" is Du Pont's trade-mark for its acrylic fiber.

"Tri" Nappers

Superior to standard machines because of:

- INCREASE IN PRODUCTION UP TO THREE TIMES OF NORMAL OUTPUT
- STEPLESSLY VARIABLE CLOTH SPEED UP TO 40 YARDS PER MINUTE
- STEPLESSLY VARIABLE NAPPING EFFECT
- SUPERIOR NAPPING EFFECT
- FEWER CLOTH RUNS NECESSARY
- ELECTRO-MAGNETIC INSTANT BRAKE

FRANZ MÜLLER

MASCHINENFABRIK • M. GLADBACH • GERMANY

SOLE AGENTS FOR NORTHERN U. S. and CANADA:

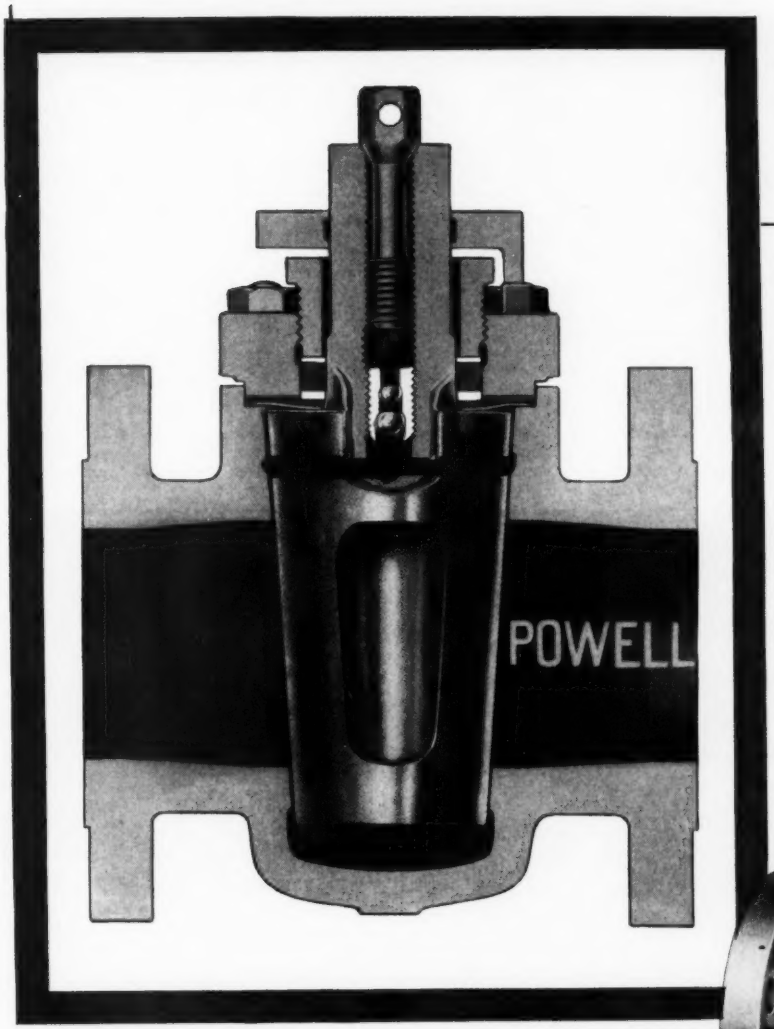
TEXTILE MACHINERY IMPORT CO., INC.
277 NORTH AVE., NEW ROCHELLE, N. Y

SOLE AGENTS FOR SOUTHERN U. S.:

PARROTT & BALLENTINE
510 SOUTH CAROLINA, NATIONAL BANK BUILDING
GREENVILLE, S. C.

Powell LUBRICATED PLUG Valves

Now! A great new line of valves that maintain the Powell standards of precision!



Investigate these outstanding new Lubricated Plug Valves that carry the Powell name and measure up to the Powell standards of precision. Features include quick and positive operation – just a quarter-turn to open or close. Lubricant grooves surrounding each port provide a positive seal when the valve is closed. In an open position, seating surfaces are not exposed.

Available in Semi-Steel and Carbon Steel through distributors in principal cities. For descriptive literature—or help on valve problems—write direct to The Wm. Powell Company, Cincinnati 22, O.

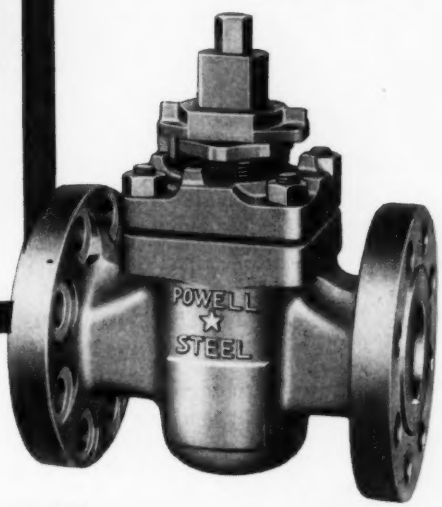


FIG. 1559 — 150-POUND STEEL FLANGED END LUBRICATED PLUG VALVE. *(300-pound Steel, Fig. 3059.)* Available with Screwed or Bolted Glands. Semi-Steel valves available for 175 and 200 pounds W.O.G. Carbon Steel valves available for 150 and 300 pounds W.P.

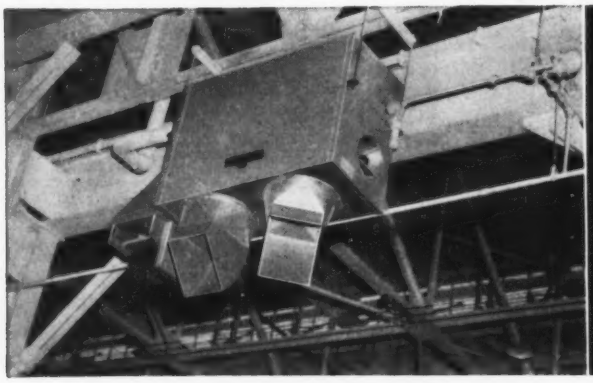
CONTROLS FOR THE LIFE LINES OF INDUSTRY

Powell Valves *108th year*

 For more information, write direct or use Reader Service post card.

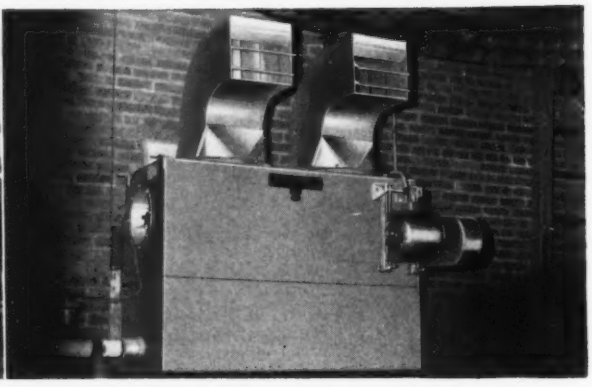
HEAT–VENTILATE YOUR PLANT

WITH THESE SPACE-SAVER "BUFFALO" UNITS!



NO FLOOR SPACE REQUIRED

with a "Buffalo" Suspended Lowboy Unit Heater. Easily mounted in roof trusses. Spreads abundant, low-cost heat where you need it. Provides ventilation in warm weather.

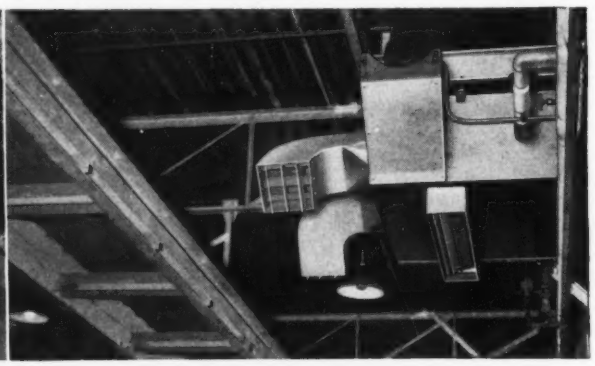


FRESH, CLEAN WARM AIR

(or cool outside air) is delivered by a compact "Buffalo" Highboy Unit with fresh air filtered through side wall. Bearing bowl at left permits easy external lubrication.

LOW OVERHEAD — HIGH EFFICIENCY!

Wall-mounted Lowboys provide plenty of heat even where quarters are cramped. New coil design increases heating surface, with narrower coil section. Coils are non-freeze.



SWIVEL OUTLETS "AIM" FLOW

accurately — a "Buffalo" efficiency feature. Others are "Buffalo" mixed-flow fans with unusually stable performance — standardized parts — lifetime construction.

Let us show you NOW how low-cost and easy it is

to heat and ventilate your plant. Bulletin 3704-A gives all details on the units to handle your heating — ventilating — makeup air problem. Handy chart gives you air diffusion distances for each unit and capacity up to 35,000 cfm.

Write for Bulletin 3704-A Today!

"Buffalo"

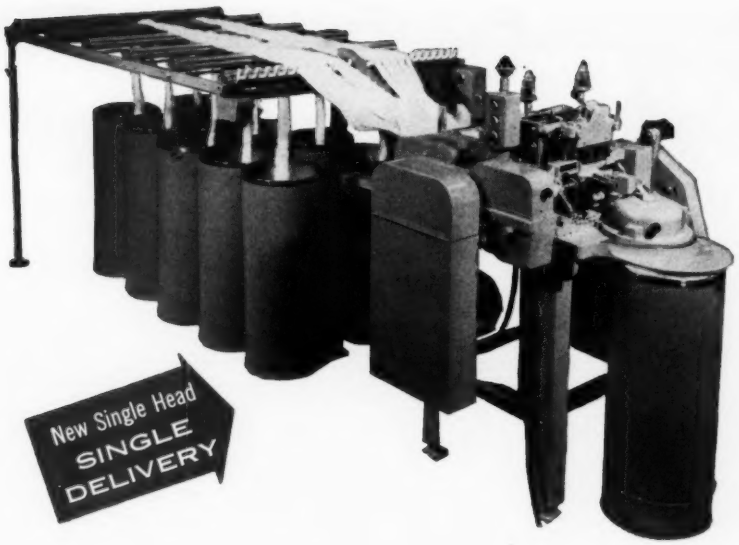
BUFFALO FORGE COMPANY

184 MORTIMER ST. BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

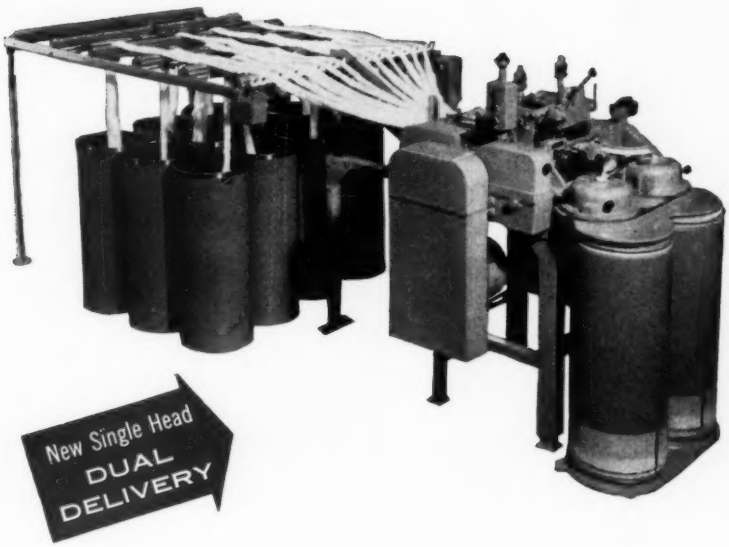
PRESSURE BLOWING COOLING HEATING FORCED DRAFT VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING



● Yes, these new, redesigned Pin Drafters give you all the previous advantages of the Pin Drafter System, *plus* many new production advantages in the first and second operations. Combined with their lower initial cost, it all adds up to higher production per dollar for you!

HIGHER PRODUCTION PER DOLLAR

with *new* Warner & Swasey Pin Drafters®



Take a look at these improvements:

- **Capacity increased 25% with new 6" faller bars!**
  From 4" effective pinning to 5".
- **25% faster!**
- **50% higher production!**
- **Better balanced production!**
- **Easier operation!**
- **Less maintenance!**
  Simplified design, sealed bearings.
- **Larger capacity creel!**

But get the complete facts about these new Warner & Swasey Pin Drafters. Call in our nearest Field Representative today!

SALES OFFICES

Main Office and Factory: 5701 Carnegie Ave., Cleveland 3, Ohio
61 Rivulet St., North Uxbridge, Mass. — Candler Building, Atlanta, Ga.
6910 Market St., Philadelphia, Pa. — 1820 Browning Ave., Charlotte, N. C.

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

® *Reg. U.S. Pat. Off.*

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

Make this quick

WHAT TO LOOK FOR WHEN YOU CHECK YOUR COTS AGAINST THE LIGHT

O. K. These Armstrong's NO-742-S Cots have been on the frame 11 months, yet need no rebuffing. Performance like this has convinced mill men that Armstrong's Accotex Covers require no more than a minimum of re-buffing to maintain top yarn quality.

NEED RE-BUFFING. If your inspection shows that cots are hollowing out or grooving prematurely, they're probably not controlling yarn so well as they should. Install Armstrong's Accotex Cots. There's a type for every mill condition.

These photographs are 5½ times actual size.

For more information, write direct or use Reader Service post card.

"Cover-to-Cover" test yourself . . .

You'll see how Armstrong's Accotex® Cots resist grooving, spin quality yarn month after month

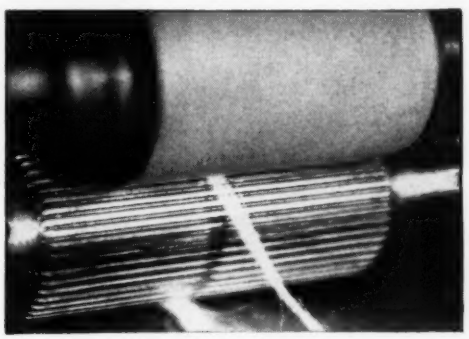
Here's a simple test that shows whether your cots are giving the good yarn control they should . . . that helps you get maximum life from your roll covers.

Lift a pair of your rolls off the frames and hold them up to the light, cover-to-cover. This test in effect "doubles" the extent of any hollowing or grooving, helps you see at a glance if your rolls need re-buffing. But with Armstrong's Accotex Cots, chances are you *won't see more than the faintest bit of light* between the covers —even after they've been in constant use for as long as a year!

Wherever Armstrong's Accotex Cots are checked this way, the results are always the same. They not only resist grooving and hollowing, but retain good drafting surfaces for as long as a year or more. There's real economy in these Armstrong cots, because you buff them only once a year—you get longer cot life plus the saving in time and labor.

IF EYEBROWING IS A PROBLEM, use Armstrong's NO-742-S Cots. A new synthetic rubber compound developed by Armstrong gives NO-742-S Cots a drafting surface with plenty of "bite." It packs waste fibers well back on the clearers, and with normal picking schedules, you'll never see an eyebrow on spinning frames equipped with NO-742-S Cots. And you'll save on labor because this cot requires fewer pickings per shift than any other compound.

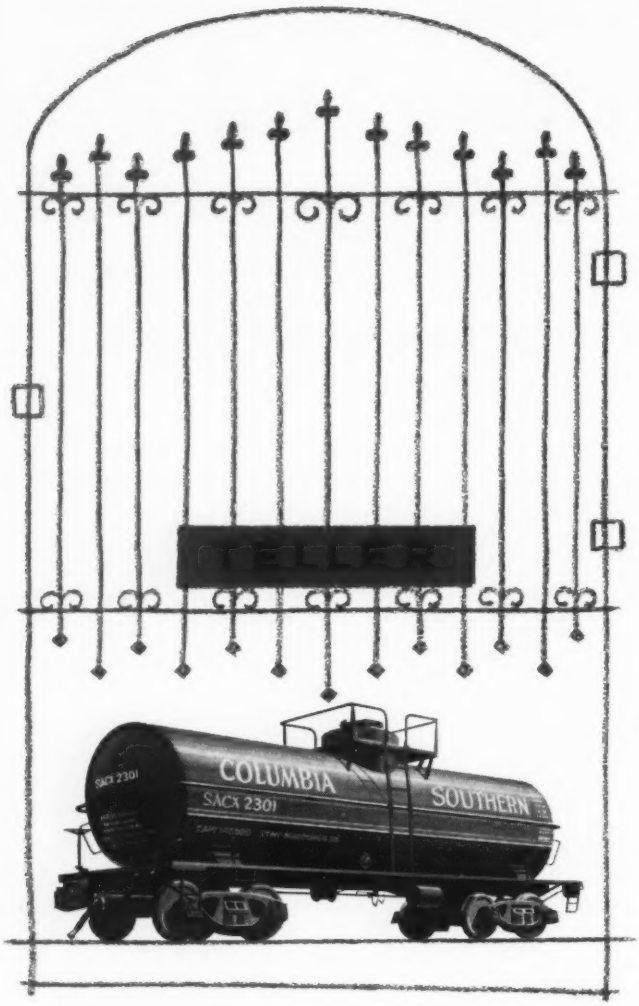
Ask your Armstrong man about this new Accotex Cot—he'll be glad to get you some samples for test frames. And after spinning with the NO-742-S for several months, you'll know how long wearing and clean spinning they are. For further information write Armstrong Cork Company, Industrial Div., 6507 Dauphin St., Lancaster, Pennsylvania.



WITH REVOLVING CLEARERS, USE THE LAP-RESISTANT J-490 COT

If you're using revolving clearers, no matter what count yarn you're spinning, Armstrong's J-490 Accotex Cots will give cleaner, more uniform yarn. Special electrolytes added to the J-490's long-wearing synthetic rubber composition make it highly resistant to lapping. The J-490 runs exceptionally clean, too. So if lapping's a problem, call your Armstrong man today and arrange for a test side of J-490 Accotex Cots.

ARMSTRONG'S ACCOTEX COTS



Like money in the bank . . . 73% CAUSTIC SODA

If you use liquid caustic soda, it will pay you to investigate the possible savings by changing from 50% to 73% concentration.

One Columbia-Southern customer figured the savings to his company at $131 per car. Other customers who made the change-over show total annual savings ranging from $1179 to $35,100.

In most cases, the cost of the equipment to handle the higher concentration is more than offset by the first year's savings. It is one obvious place in many users' plants where savings can be realized without sacrificing quality, service, or efficiency. Actually, many man-hours are saved because fewer cars are needed to deliver the same amount of NaOH.

Depending upon the quantity of caustic soda used, and plant location, the savings to each customer naturally vary. But there is no easier way to find out than to check with our Caustic Soda Department at our Pittsburgh office. Our staff there will be glad to figure the savings for you. No obligation, of course.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER · PITTSBURGH 22 · PENNSYLVANIA

DISTRICT OFFICES: Cincinnati • Charlotte
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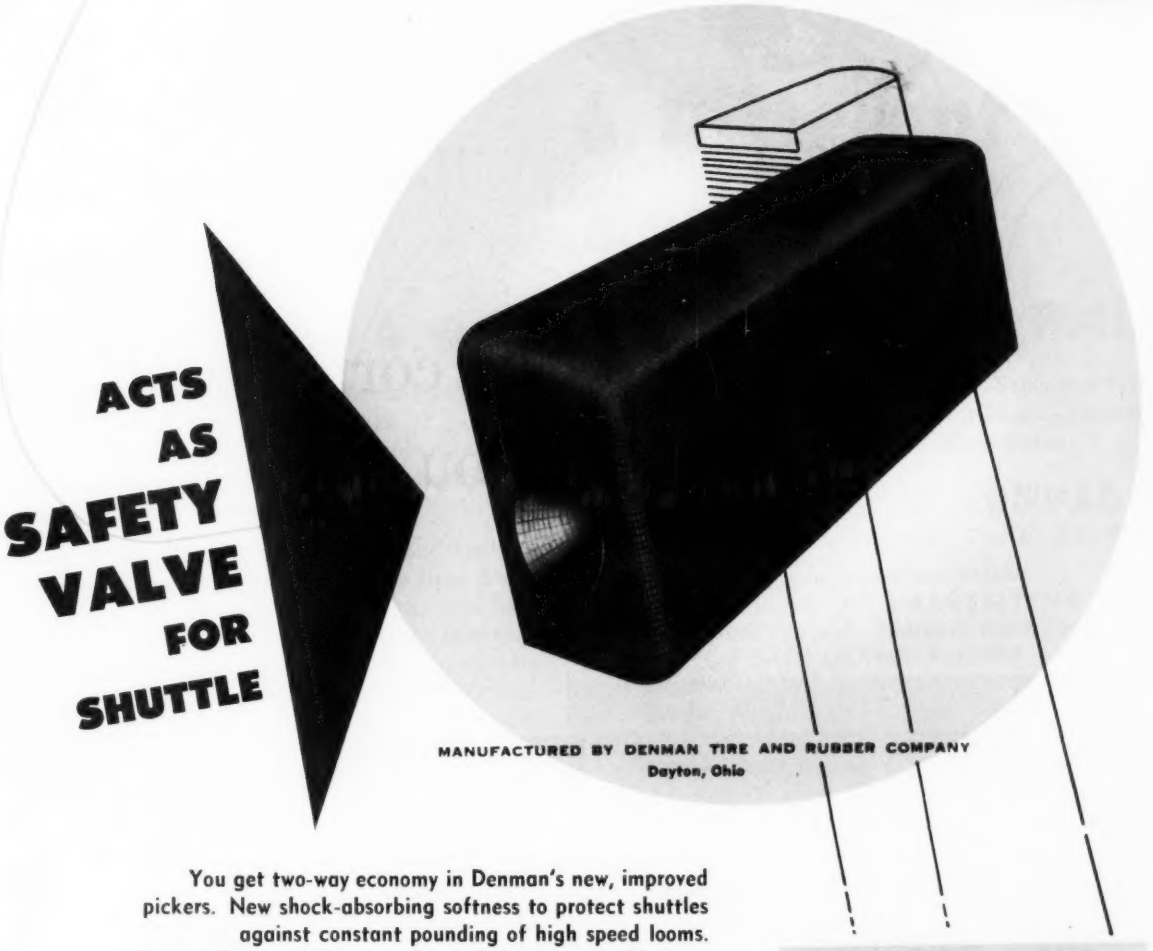
DENMAN'S NEW SOFTER PICKER

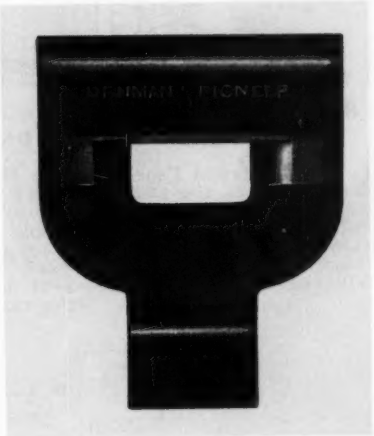


ACTS AS SAFETY VALVE FOR SHUTTLE

MANUFACTURED BY DENMAN TIRE AND RUBBER COMPANY
Dayton, Ohio

You get two-way economy in Denman's new, improved pickers. New shock-absorbing softness to protect shuttles against constant pounding of high speed looms. New surface smoothness and rounded corners to eliminate cloth seconds caused by hanging filling. Take advantage of these new economy features—Denman is softer and smoother than any other picker. Let a Terrell engineer help you. He is an expert in solving *individual* picker problems—in recommending the right picker to assure you

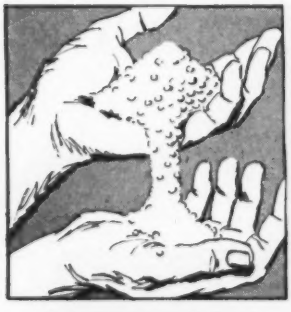
LOWEST COST PER LOOM PER YEAR



Exclusive Sales Representative:

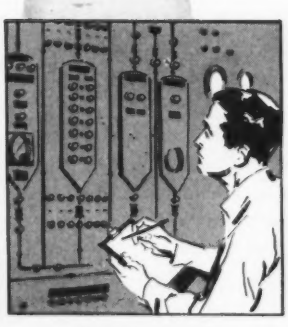
THE Terrell MACHINE COMPANY, INCORPORATED CHARLOTTE, NORTH CAROLINA

GLOBE® pearl corn starch gives you all this...



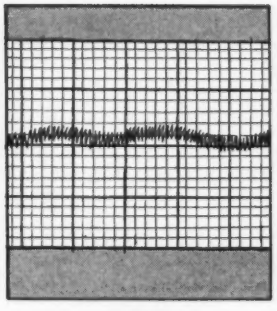
A SUPERBLY CLEAN PEARL STARCH

Put Globe Brand Pearl Corn Starch to the test. We know you'll be happy with the clean, clear size it makes. Globe Pearl Corn Starch is always available in the quantities you desire.



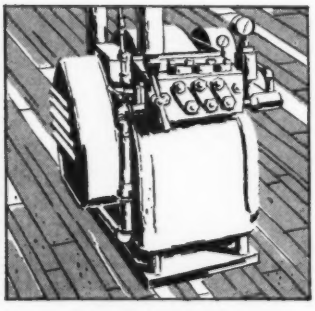
CONTROLLED UNIFORMITY

Globe Brand Pearl Corn Starch is made under exacting plant and laboratory controls. Each batch will meet your exacting specifications. This thick-boiling starch is ideal for warp sizing carded yarns.



VISCOSITY STABILITY

Globe Brand Pearl Corn Starch performs perfectly in the sizebox, producing a smoother, tougher size, giving a yarn with greater strength and reduced shedding.



IDEAL FOR HOMOGENIZERS

A special Globe Brand Pearl Corn Starch has been developed for homogenizers. It homogenizes to a uniform end-product, clean and stable, making a size that produces a better sized warp.

- Take advantage of our free technical and laboratory service. Send your specific production problems to us. We welcome the opportunity to serve you.

Corn Products Refining Company • 17 Battery Place, New York 4, N. Y.

Yarn of Identical Color from 6 Different Beams

. . . because All 6 were Dyed in the Same Bath

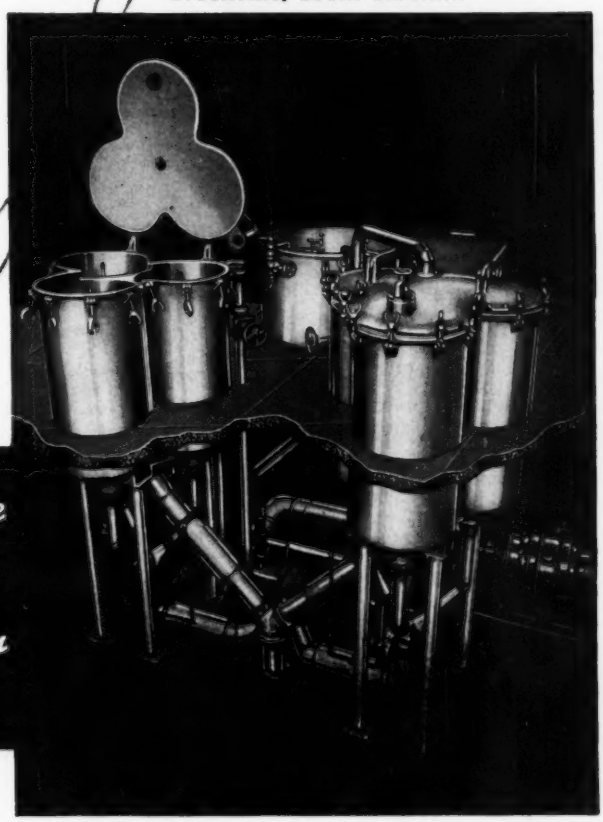
You can be positive of securing identical color only when the different beams or packages of yarn are dyed under identical conditions. And identical conditions are certain only when they are dyed in the same bath!

SMITH-DRUM Combination Beam and Package Dyeing Machines are designed to handle from 2 to 6 beams or yarn carriers simultaneously in the same bath and under identical conditions. This means that each beam or yarn carrier is dyed with the same liquor ratio . . . under the same operating conditions of flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in absolute uniformity of dyeing results, in economy of operation, in saving of floor space . . . let us arrange to have one of our representatives discuss the possible application of this SMITH-DRUM Machine to your operations. A letter, telephone call or wire will receive our prompt attention.

SMITH, DRUM & COMPANY
432 W. Allegheny Avenue, Phila. 33, Pa.

Southern Sales Representatives:
PARROTT & BALLENTINE
610 South Carolina National Bank Bldg.
Greenville, South Carolina



The **SMITH-DRUM** *Machine that Dyes from 2 to 6 Beams or Yarn Carriers in the Same Bath!*

Free copy of Catalog No. PBD-801 will be sent to you on request

This Van Vlaanderen

COMBINATION EXAMINING and TUBING MACHINE

is built to the superior standards identifying all Van Vlaanderen machines It is rugged It is designed for the operator's convenience. It gives better production. It eliminates tubing labor costs.

Your operator can do straight examining—tube to tube, shell to shell, beam to beam or can tube while he inspects all or only part of the fabric. Speed changes from the slowest examining rate to full tubing speed are effortlessly and instantaneously made through a finger-tip control, governing a variable speed drive.

For rejected yardage (seconds) a supplementary center bar is provided.

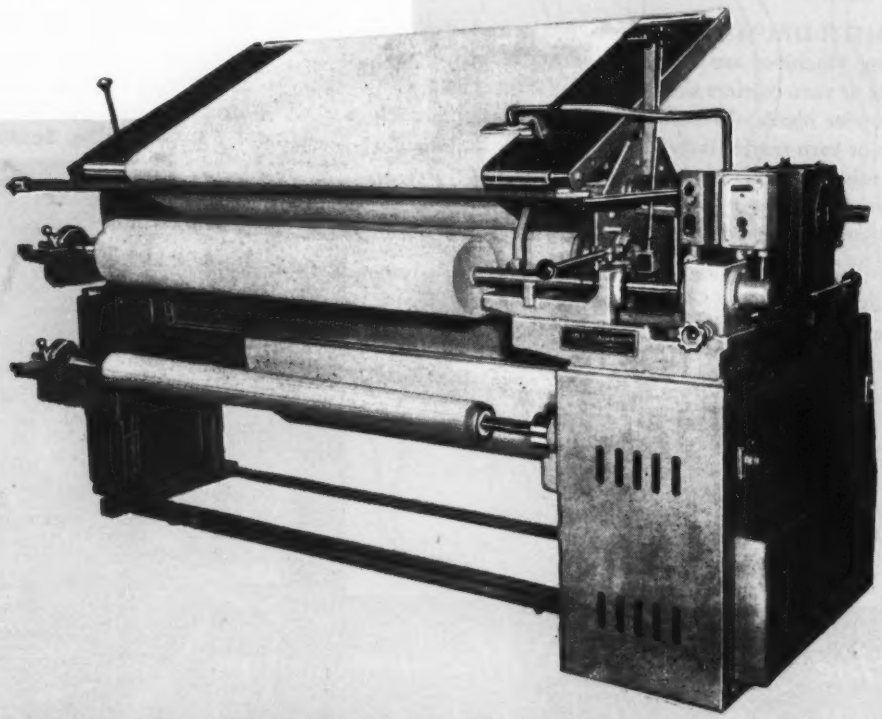
YOU FIGURE THE SAVING

Can you eliminate the labor costs of tubing fabrics by using this modern combination machine?

The Van Vlaanderen Combination Examining and Tubing Machine was designed to permit you to do just that

This machine automatically tubes while your operator examines—and tubes better because selvage corrections are made quicker and smoother by the automatic selvage guide consisting of an air pressure follow-up control and hydraulic cylinder actuating the movable tubing bar carriage. Operates on all fabrics from light sheers to heavy ducks, plastics and paper.

Ask our representative to work with you to decide the savings you can make.



VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, • Paterson 3, New Jersey

Cable address: Vlaanderen, Patersonnj, U.S.A.

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina

WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

Two of these Clarks guarantee HIGH SPEED FLOW from press to rail car !

What's true in the cotton compress business is true in *any* modern industry—high speed mechanized handling is the key to increased profit. The photo above was taken at West Texas Warehouse and Compress Co., Lubbock, Texas. Two of these Clark Carloaders, with 2-bale clamp, keep a steady flow of pressed cotton from the presses directly into rail cars. No delays, no pile-up of cotton at the press.

In this operation, a total of three trucks guarantee the high speed flow of cotton from storage to rail car—at minimum cost, with no delay due to lack of manpower or fatigue. The Clark line of materials handling machines is complete. And your own local Clark dealer is experienced in solving textile-handling problems. Why not ask him how much money he can save for you?—he's listed in the Yellow Pages.

CLARK EQUIPMENT

Industrial Truck Division **CLARK EQUIPMENT COMPANY**
Battle Creek 27, Michigan

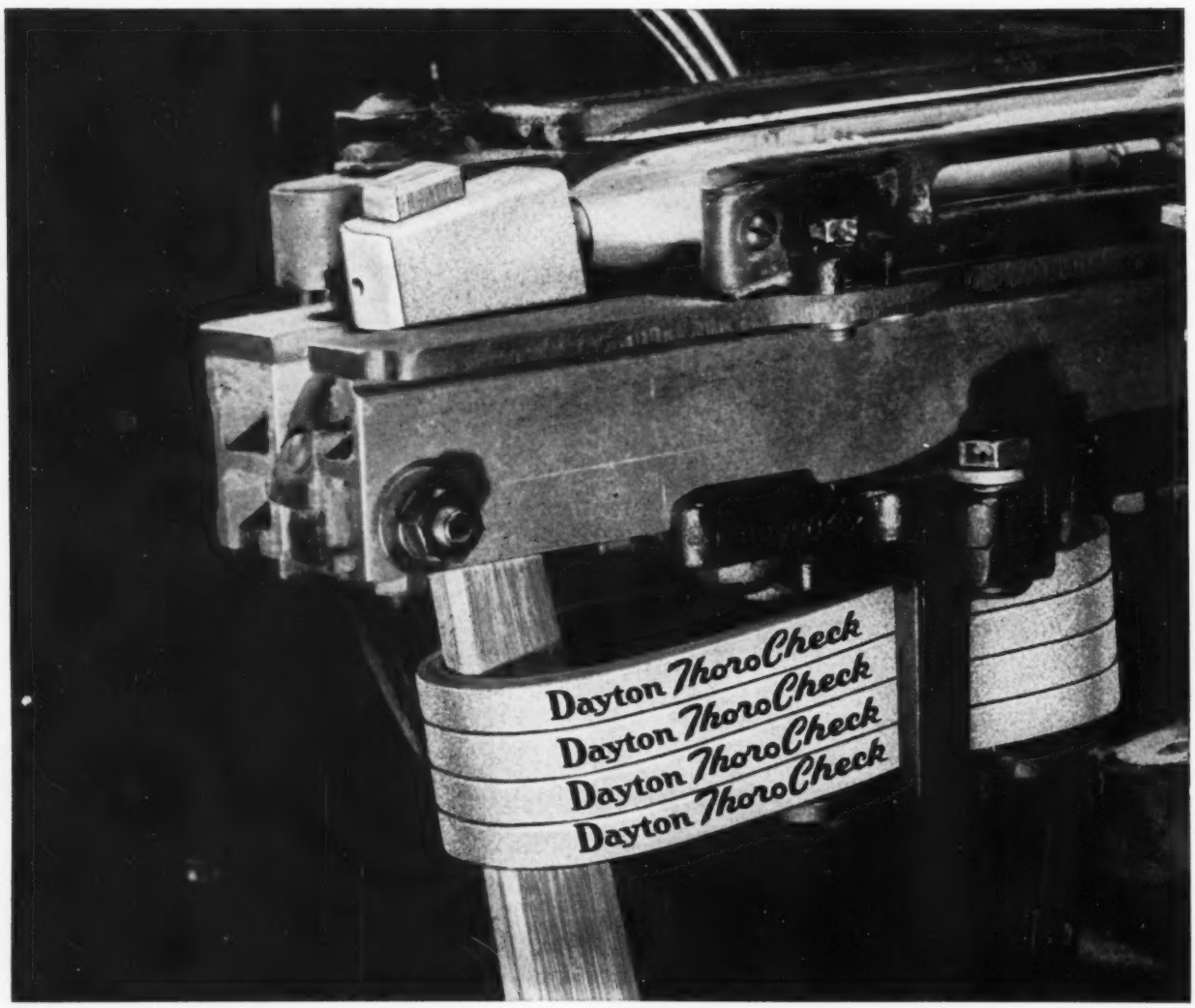
 For more information, write direct or use Reader Service post card.

Mills Save 25%
DAYTON ThoroCheck

Actual use proves economy of Dayton ThoroChecks. Reduce picking motion costs by equipping your frames with Dayton ThoroChecks that have proved themselves in actual operation. Mill superintendents report a 25% to 50% reduction in check strap cost as well as healthy savings in time, labor and maintenance with these amazing, longer-lasting synthetic ThoroChecks.

One mill reports installing Dayton ThoroChecks on 40 looms running 182 picks per minute. No adjustment has been necessary and inspection after 14 months of continuous service shows no signs of wear. No telling *how much* the saving will eventually be when new Dayton ThoroChecks are finally installed.

You can get these worthwhile benefits for *your* weaving



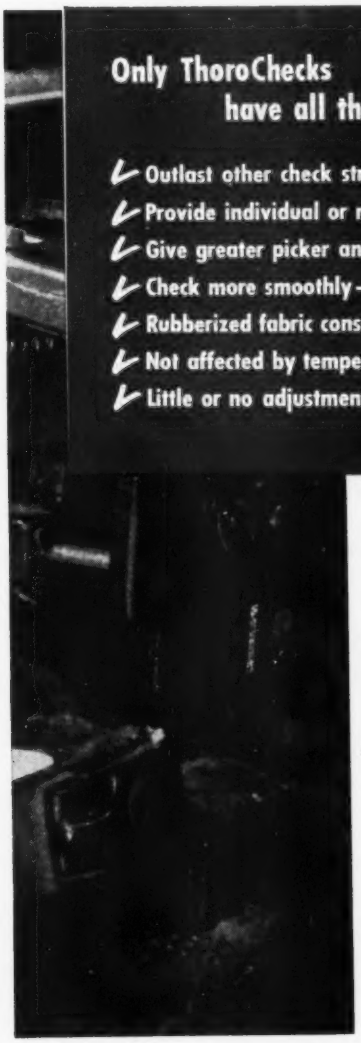
to 50% with...

Endless Check Straps

room operation, just as other mills are doing, by changing to Dayton ThoroCheck Endless Check Straps throughout.

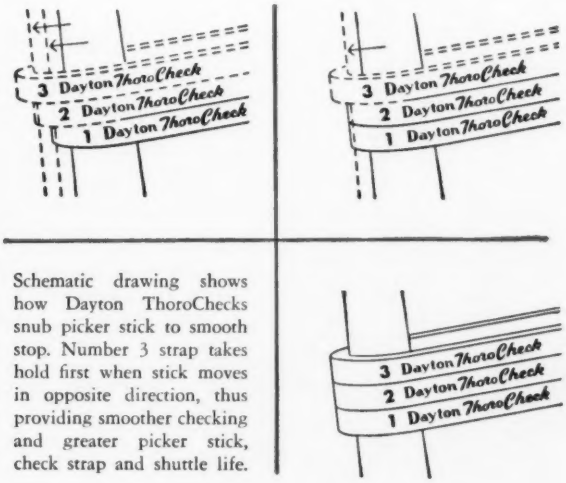
There's an important safety factor, too, in Dayton ThoroChecks. For, when breakage finally does take place after lengthy service, usually only one check strap of the set will be affected . . . the remaining two will protect your equipment until the needed replacement has been accomplished.

Smoother checking by means of a snubbing action protects the stick and, in addition, because impact of the picker stick is displaced over *all three* straps, you get longer strap life under the severest pounding. No doubt about it, you'll improve your checking operation and reduce your cost with Dayton ThoroChecks. Try a test today. Just fill out and mail the coupon for complete details without delay.



Only ThoroChecks have all these advantages:

- Outlast other check straps 25% to 50%
- Provide individual or multiple replacement
- Give greater picker and shuttle life
- Check more smoothly—protect picker stick
- Rubberized fabric construction—no elongation
- Not affected by temperature or humidity
- Little or no adjustment needed



Schematic drawing shows how Dayton ThoroChecks snub picker stick to smooth stop. Number 3 strap takes hold first when stick moves in opposite direction, thus providing smoother checking and greater picker stick, check strap and shuttle life.

Dayton Rubber

Since 1905

Textile Products for Better Spinning & Weaving © D.R. 1954

Dayton Rubber Co., Textile Division **Woodside Bldg., Greenville, S. C.**

Dayton Rubber Co., Textile Division, Dept 346, Woodside Bldg., Greenville, S. C.
Send me complete information on Dayton ThoroCheck Endless Check Straps

Name _____

Name of Mill _____

Address _____

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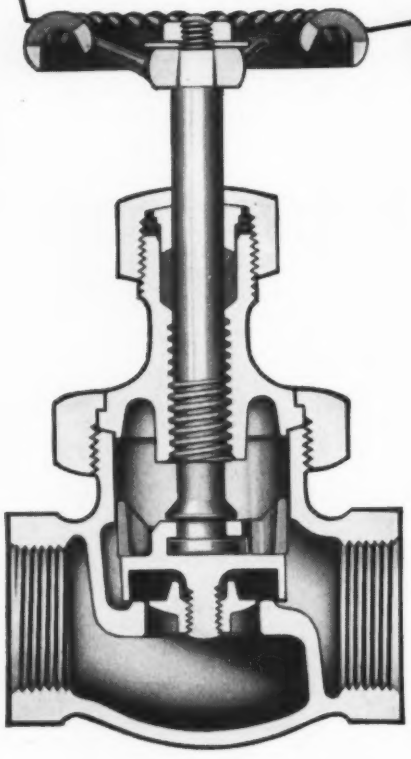
For more information, write direct or use Reader Service post card.

A New Disc . . .
A "New" Valve



Crane No. 7 Brass Valves with quick-change composition disc

Save time, trouble, and money by standardizing on these Crane quality 150-Pound Valves. Simple to service. No big inventory of replacement parts. Just a few extra disc holders . . . a supply of composition discs. That's all you need for a wide variety of fluids . . . and an economical maintenance program.

The composition disc takes most of the normal wear—stands up well under ordinary usage—seats easily even on air and gas—absorbs foreign particles that might cause leakage in metal disc valves. When a leak shows up, make a "new" valve—with a new disc. Simply dismantle the union ring, lift out the trimmings, replace the disc holder assembly. Takes only a few minutes. Save the disc holder you removed—use it with the next replacement disc.

Rugged construction throughout. Sturdy bonnet joint, well reinforced by heavy union ring—can be repeatedly dismantled and reassembled. Get better acquainted with the Crane No. 7 line . . . for steam, hot and cold water, air, oil, gas, gasoline, and many other fluids.

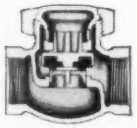
GLOBES, ANGLES, AND CHECKS

Ask for folder AD-1682R—contains full facts on the No. 7 brass valve line and the companion No. 27 check. Your Crane Representative has a copy for you—or write direct to address below.

No. 7 Globe
Sizes ⅛ to 3-inch

No. 7 Angle
Sizes ⅛ to 3-inch

Specify No. 9 for Flanged Ends



No. 27 Check
Sizes ¼ to 3-inch

THE BETTER QUALITY . . . BIGGER VALUE LINE . . . IN BRASS, STEEL, IRON

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CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

WHAT WONDERS THESE TAGS BE

Amazing, the job tags will do, according to some of the smarter copy writers. And the tags, and the television, and the tempests about them are promoted to the point of boredom. Promoted by everybody, that is, except the fellow who's looking for unconditional, *permanent* water repellency come . . . well, come high water, and dry cleaning, and laundering, too.

First repellent, second repellent, *n*th repellent — there's only one thing that makes the difference and that's the proven superiority of

REPELOTEX

Your every dollar for **REPELOTEX** buys only that one thing, superior quality, and buys it at lower cost, without the price of the shows, the shills and the shouts.

REPELOTEX will last the life of any fabric, impart a better hand, make for easier sewing, improve the strength of resin-treated fabrics, resist staining, spotting and mark-off effects. **REPELOTEX** applies and formulates easily and simply, without unpleasant odor or after-wash, and is remarkably compatible with resin-treated finishes.

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ONYX OIL & CHEMICAL COMPANY

TEXTILE DIVISION

WARREN & MORRIS STS., JERSEY CITY 2, N. J.

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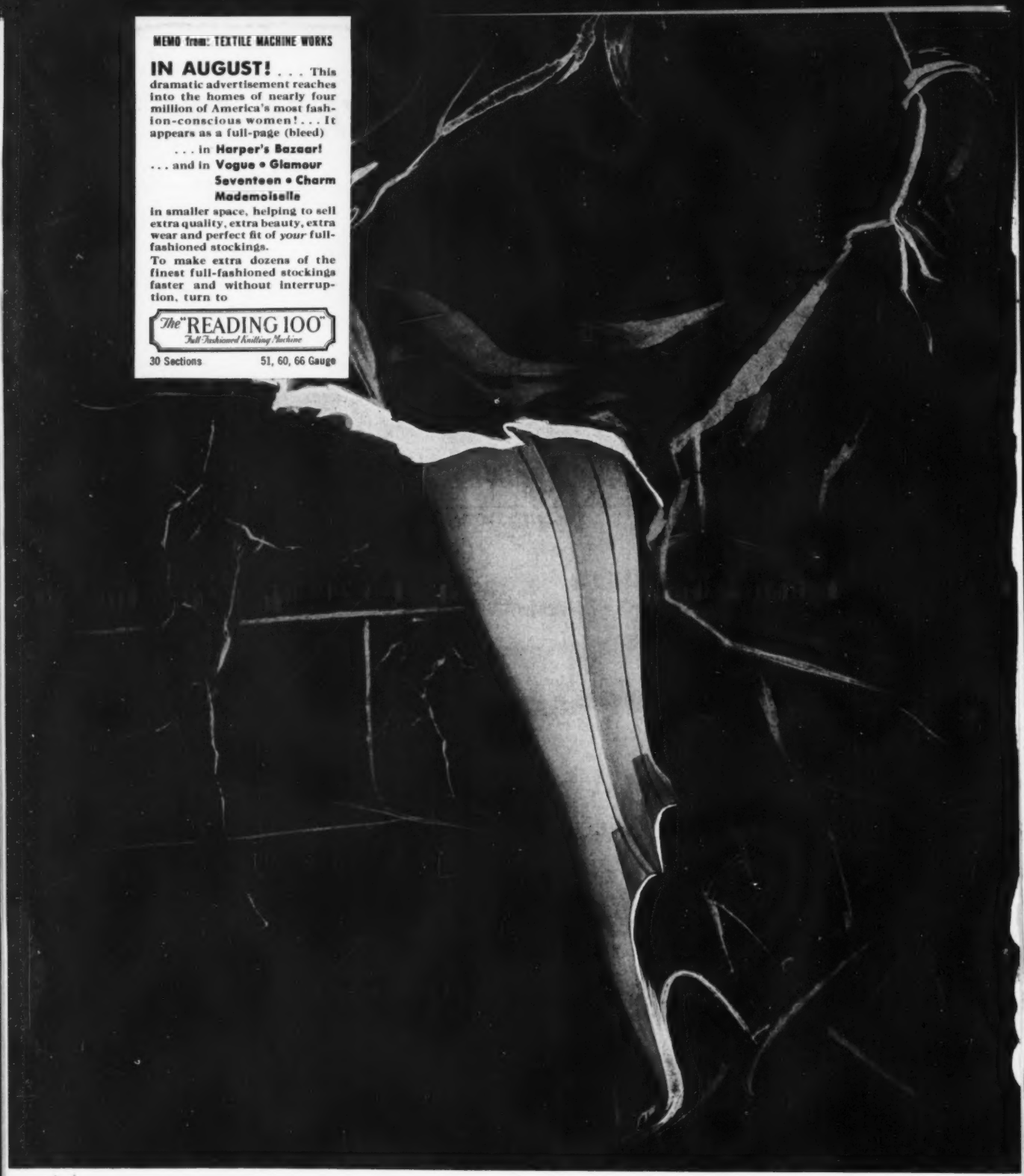
MEMO from: TEXTILE MACHINE WORKS
IN AUGUST! . . . This dramatic advertisement reaches into the homes of nearly four million of America's most fashion-conscious women! . . . It appears as a full-page (bleed)
. . . in Harper's Bazaar!
. . . and in Vogue • Glamour
Seventeen • Charm
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in smaller space, helping to sell extra quality, extra beauty, extra wear and perfect fit of *your* full-fashioned stockings.
To make extra dozens of the finest full-fashioned stockings faster and without interruption, turn to
The "READING 100"
Full Fashioned Knitting Machine
30 Sections
51, 60, 66 Gauge

SEE YOUR LEGS AS OTHERS SEE THEM . . .

Yes, it's the seam in your stockings that flatters your ankles and accents the lines of beauty in your legs. It's the seam that forms the pencil-line link between hemline and shoe, that emphasizes sheerness and color and gives your legs a more finished look. It's the seam that says "these stockings are custom knit to fit skin-smooth at every crucial point—*these are full-fashioned stockings!*"

© 1954 Hosiery Fashions

FINANCIAL AID TO HIGHER EDUCATION

What Business Can Do to Help Our Colleges and Universities

Is the financial squeeze now gripping our colleges and universities grave enough to warrant direct action by the business community? If so, what can business do about it? This editorial is addressed to these two questions.

In the previous editorial in this series of two, it was demonstrated that **our colleges and universities, and particularly the independent institutions, face financial difficulties, which, unless relieved, promise to get progressively worse and might ultimately result in a national disaster.** This state of affairs obviously gives the business community a crucial stake in helping to relieve the plight of these institutions. For our business organizations can be no stronger than the total community of which they are a part.

It does not follow automatically, however, that every business firm should give direct financial aid to education. Already the business structure is heavily burdened with activities unrelated to its main purpose. These include acting as tax collector for more than $65 billion of federal, state and local taxes in the year 1953. There is a limit to the amount of such public enterprise that can be loaded on the business system.

Business Holds Key to Answer

If, however, the survival of a key part of our educational system depends on its having financial help from the business community, that help should be provided. And this is the situation of our independent privately endowed colleges and universities.

Of course, our tax-supported institutions of higher learning must also be kept strong, financially and otherwise. But they have recourse to public support not available to the independent institutions. Largely on this account, their present financial difficulties are much less acute than those of the independent colleges and universities.

These independent institutions have seen price inflation eat away much of the value of their endowments. Moreover, there is no prospect that these endowments can be sufficiently replenished by gifts from the wealthy people who provided them in earlier years. Progressive income and estate taxes have seen to that. Thus, they are faced not only with a peculiarly acute financial problem, but also one which cannot be solved except by tapping other sources of aid.

Tax Support No Solution

It is conceivable that the independent colleges and universities might solve their financial problem by seeking support from tax revenues. If they did this, however, they would lose their distinctive character as independent institutions, and our system of higher education would lose one of its major elements of strength. That is the existence in our educational system of both independently financed and tax-supported colleges and universities. Each has its special contribution to make to a well-balanced system of higher education.

Business is directly dependent upon higher education to staff its increasingly complex and exacting operations. A key part in this process is played by the small, independent liberal arts colleges which are the hardest hit financially of all our institutions of higher learning. "These," states the Council for Financial Aid to Education, recently formed by a group of business leaders, "have contributed a high proportion of the intellectual, scientific and religious, as well as business leadership of the nation. Their programs are devoted to the teaching of values, particularly the values of freedom. They are a vital bulwark to our system of free enterprise."

Means of Providing Help

There are many means by which business firms can extend help to our colleges and universities. The most obvious, of course, is to make outright grants of money either to individual institutions or to groups of institutions for such uses as the institutions think best. Another means of help, increasingly employed by business firms, is to establish scholarships to pay the full cost of college or university courses of study. Sometimes the scholarships are open for general competition, sometimes they are limited to employees and children of employees of the firm granting them. Not infrequently those winning the scholarships spend some part of their school vacations working in the companies granting the scholarships.

A number of companies have recently provided for what have come to be called "scholarships in reverse." These companies pay a flat sum to a college or university for every one of its graduates they employ. Financing of university research programs also offers a broad avenue for financial aid to our universities by business.

Need Two-Way Communication

Some business firms have well-developed programs for financial aid to education. But they are exceptional. For most companies the problems involved are new and strange. These companies were created with the basic purpose to make money, not to give it away. Successful philanthopic operations involve a whole set of problems with which they have very little experience. Not the least of these is how to make business a dependable source of financial aid to education, since business has no assurance that the profits of one year will not be losses the next.

Considerations such as these emphasize the wisdom of a recent Industry-College Conference on aid to higher education by business, in making the first of its ten conclusions that "better communication, by direct contact, is needed for each [industry and the colleges] to understand the problems of the other." At this juncture the creation of mutual understanding is much more important than the raising of some money and letting it go at that. The problem of aid to education by business has its immediate urgency, but there is also a long-range program to be developed on which business and the colleges and universities must pull together in the years ahead to find a satisfactory solution.

As stated at the outset, failure to find a satisfactory solution could result in a national disaster. This means that, **to give proper heed to their own future prosperity and the future welfare of the nation, business firms generally must go to work on the problem of financial aid to higher education. They must go to work first, to understand the problem; second, to establish two-way communication with our colleges and universities about it; and third, to develop a program which pays proper heed to the needs and capabilities of both business and higher education.**

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

TEXTILE WORLD
July, 1954 • Vol. 104 - No. 7

NYLON ANKLETS knitted from continuous-filament yarn (left) and from the same basic yarn textured (right) show the difference in surface appearance. The anklet at the left has a smooth surface; the one at the right a soft surface similar to a spun-yarn anklet.

TASLAN

A New Type of Yarn

▶ Taslan textured yarn is produced by Du Pont's process of air-blasting yarn to insert tiny loops in the filaments or staple fibers. Yarns treated have 15 to 30% more weight and 75 to 150% more volume.

By FREDERICK C. FIELDS, JR.
E. I. du Pont de Nemours & Co., Inc.

TASLAN IS THE PRODUCT of a new method of yarn treatment developed by Du Pont's Textile Fibers Dept. The treating method is called the textured-yarn process; the products are called Taslan textured yarns.

Taslan textured yarns made from continuous-filament yarns are, in their physical and aesthetic properties, similar in some respects to both filament and spun yarns. It is a combination of properties—some normally associated with spun yarns, some with filament yarns, and some intrinsic to the textured configuration—that makes Taslan textured yarns different from filament and spun yarns. For example, they have some of the bulk and coverage of spun yarns, some of the evenness and strength of filament yarns, and a hand and versatility of their own.

Taslan textured yarns are characterized by their bulk

Use of the textured-yarn process and the tradename Taslan are licensed to companies by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. Du Pont will not produce the yarns commercially.

and loopy structure. Filament loops protrude from the main filament fiber bundle comprising the yarn. These loops, which can be varied in both size and frequency within certain practical limits, give the treated yarns their characteristics.

Most of the work done to date has been on yarns that have been bulked (shortened by looping their filaments) 15 to 30%. This bulking means that Taslan textured yarns have 15 to 30% higher weight per unit length than the same untreated yarns, or, more simply, 15 to 30% higher denier. Each filament in a given length of textured yarn has been shortened by being looped. The greater the shortening, the larger or more frequent the loops must be, or both. Loops in Taslan textured yarns occur at random along a given filament, but a multifilament end presents a reasonably uniform, loopy surface.

While the yarn size in terms of denier has been increased 15 to 30%, the size in terms of the physical space that it occupies, say on a package, has been increased 75 to 150%.

Yarn Characteristics

What does the loopy filament configuration mean in terms of yarn characteristics? Tests at Du Pont have shown that:

Yarns have bulk with less weight. The same amount of body can be obtained with less fiber.

They have high covering power; they tend to be opaque.

They can be made to have a wide range of hand—soft, firm, dry, crisp, or harsh, according to process conditions.

They have subdued luster.

They resist surface degradation.

They have good strength.

They have good dye receptivity.

They are stable in form.

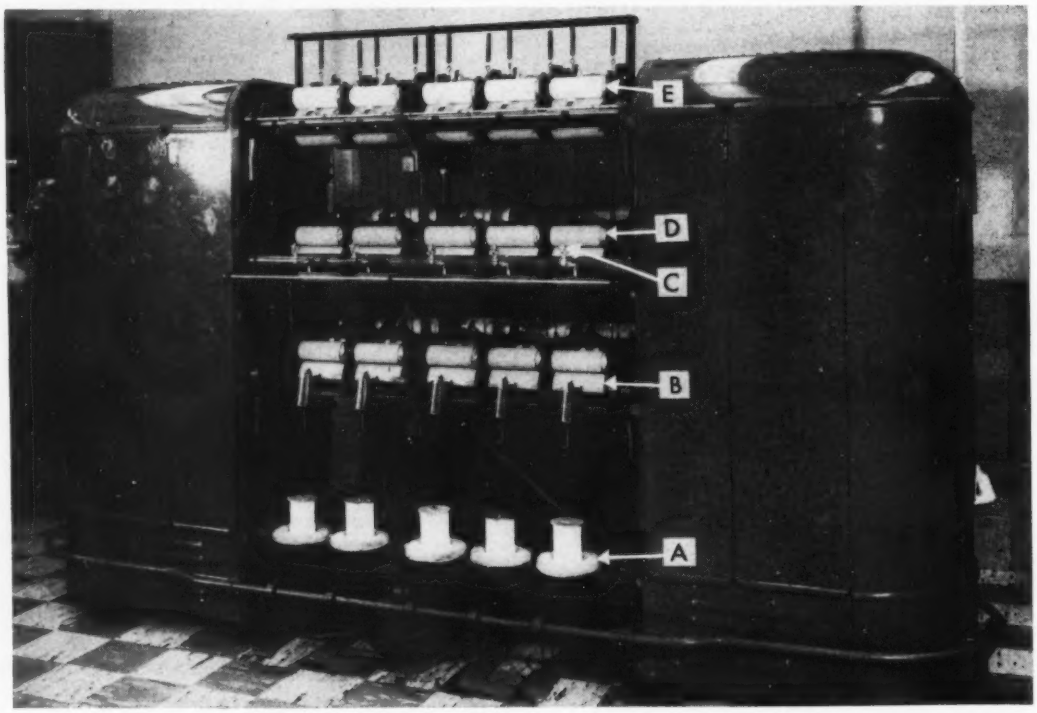
The basic process elements that are subject to controlled variation are:

1. Fiber or fibers in the starting yarn
2. Size of the yarn
3. Denier per filament
4. Twist
5. Conditions of treatment

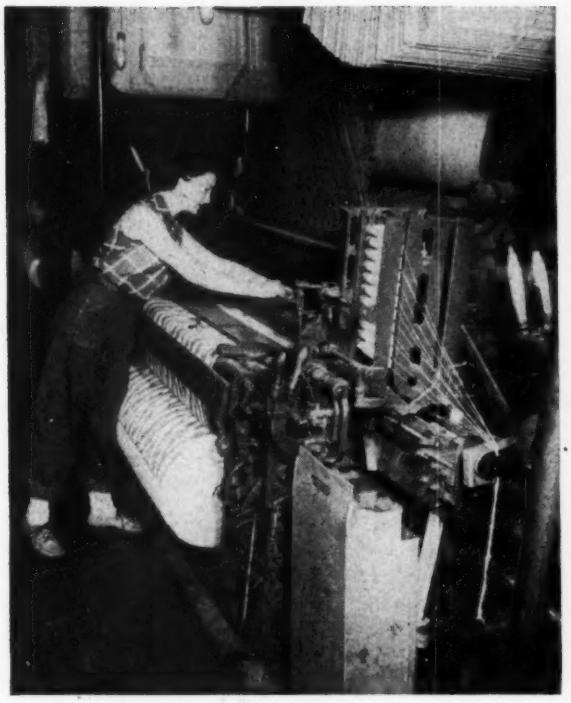
Obviously, several different yarn products can be made from the same starting material.

Many different types of conventional textile machines can be adapted to the process. It is more than likely that special process equipment specifically designed for the purpose will be the most economical to operate on a production basis.

Universal Winding Co., U.S. Textile Machine Co., and Foster Machine Co. are either in a position to supply special equipment or are doing development work in that direction. Sixteen new prototype machines and several conversions of existing equipment are now in use.



TEXTURED-YARN MACHINE made by Universal Winding Co. is illustrated by this model. Yarn-delivery packages are mounted on spindles *A* on the bottom rail, and yarn feeds upward. The bottom rolls *B* take the yarn from the delivery packages and feed it to air jets *C* mounted on an air line in which air pressure is controlled by the valves shown at the left. From the jets, which blast the filaments with air to form loops, the yarn is taken by rolls *D* and delivered to the yarn-stabilizing rolls *E*. The difference between the speed of the bottom rolls and the speeds of the two top lines of rolls determines the amount of bulking done to the yarn. The greater the difference, the bulkier the yarn.



TEXTURED TOWEL is being woven on a C&K C-3 loom equipped with a jacquard attachment. Weaver Lucille Eady is restarting a stopped loom. She operates seven looms.

JACQUARD ATTACHMENT is tied up, and a dobby has been placed on the loom to weave one of the plainer-type towels. Loomfixer J. P. Herd checks the shuttle tension.

Callaway Mills Uses These Methods To Weave Quality Towels

- **Loom speeds are kept low for better weaving**
- **Jobloads give employees time to check woven cloth**
- **Weavers' bonus places premium on good cloth**
- **Gray and finished-towel inspection keeps quality high**

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

LOOM SPEEDS AND JOBLOADS are set to permit weaving of high-quality towels at Callaway Mills' Elm City plant at LaGrange, Ga. The selection of jacquards or dobbies for each pattern of textured or plain design also adds to the quality of the towels, all woven from package-dyed yarns.

Looms Are Flexible

The mill is equipped with 342 C&K C-3 4x1 terry-towel looms. All looms run 8¾-in. bobbins and change the bobbins automatically. From one to four shuttles are used, depending on the cloth styles to be woven.

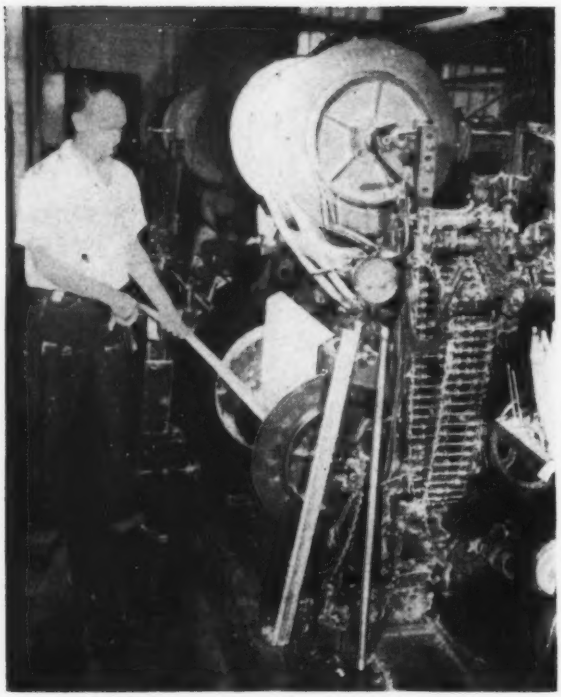
Dobby-equipped looms 30 and 38 ins. wide run at 174 ppm. Jacquard-equipped looms in the 30- and 38-in. widths run at 164 ppm. Dobby looms 60 ins. wide operate at 145 ppm. Jacquard looms in the same width operate at 128 ppm.

Dobbies are run faster than jacquards because they generally give less trouble than the jacquard-equipped looms. One reason for this condition is that the jacquard attachments are always used to weave the complicated textured patterns. Dobbies are used for the plainer weaves. In all cases, loom speeds are calculated to reduce cloth defects and improve efficiency.

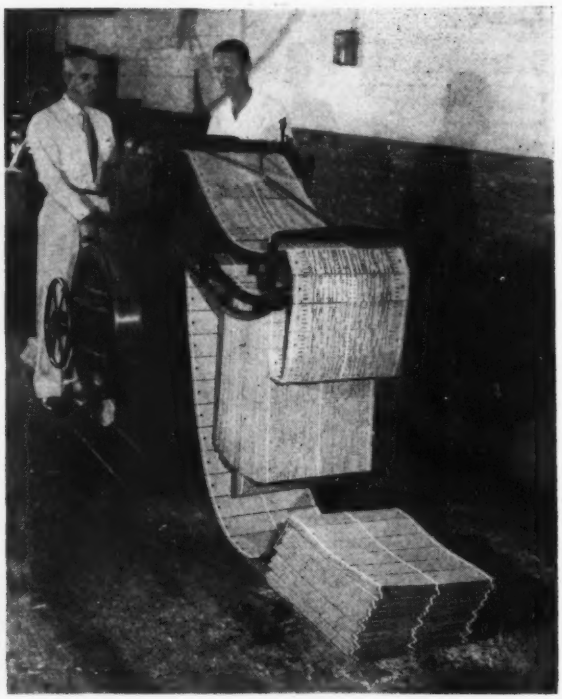
Jobloads are also conservative at the Callaway towel plant. Weavers on 60-in. jacquard looms tend six looms. On the 30- and 38-in. jacquard looms, they tend seven looms. Weavers on 30- and 38-in. dobby looms run eight looms.

Loomfixers on all jacquard looms fix on 30 looms. On dobby looms, they fix on 36 looms. There is also a head loomfixer on each shift.

There is a quality inspector on each shift. These inspectors inspect all new warps when they are started. In addition, they patrol weavers' alleys look-



WARP REPLACEMENT is made by Tying-Machine Operator V. E. Brookins with a Barber-Colman L. C.-model portable machine. Both top and bottom warps are being tied.



CARD CUTTING and pattern-changing scheduling are done under the supervision of Assistant Overseer of Weaving H. L. McClain. The design cutter at the back is Fred May.

QUALITY CLOTH is stressed to Weaver Betty King by Weaving Overseer P. D. Skelton. The board lists every yard of second-quality cloth made every day.

LOOMFIXERS' WORK is made easier by a small shop in a corner of the weave room. Machine tools include a drill press and grinder. Head Loomfixer A. L. Bryant is working.

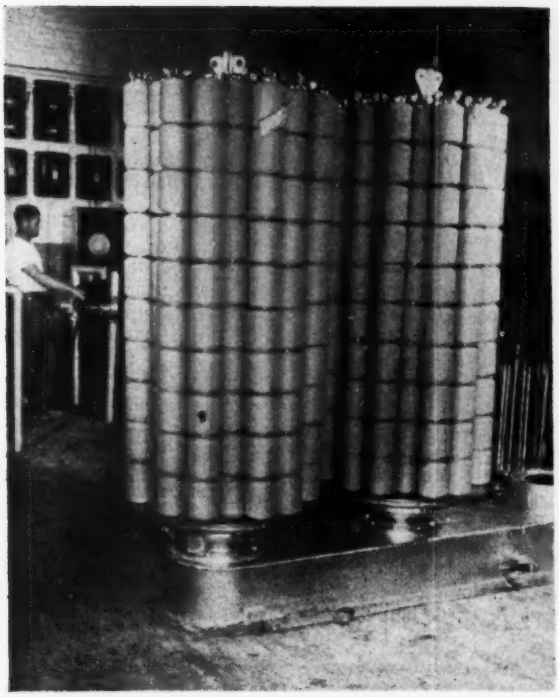
ing for defects as they are made on the looms.

There Is Plenty of Supervision

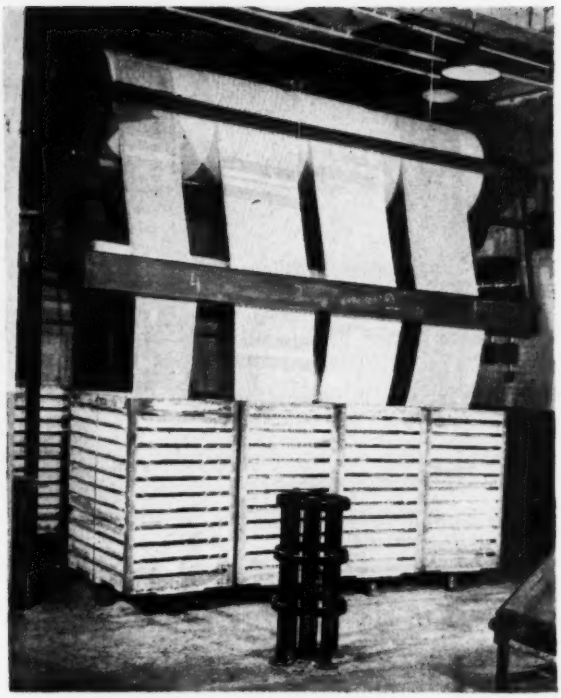
Under the general overseer of weaving, there are an assistant overseer and two second hands on each of the three shifts.

One of the big jobs of the assistant overseers is to supervise and schedule jacquard-card cutting for the textured weaves. Since pattern changes are frequent, card cutting is a big job. At seasonal style changes, cards are cut on all three shifts. During normal operation, the cards are cut only on the first two shifts. Cards are cut in the drawing-in room in a separate building from weaving.

The fabrics to be run determine whether dobby or jacquard attachments will be run on the looms. Looms 30 and 38 ins. wide are equipped with both dobbies and jac-



PACKAGE-DYED YARNS are used in all 16 colors of towels woven. John Miller, dyehouse employee, is filling a kettle. Each batch of yarn is matched under Macbeth lamps.



INSPECTED TOWELS are given a half bleach in a bleach range, and then they're dried in a loop dryer. The results are a soft, absorbent towel without additional finishing.

FINAL QUALITY is insured by Classifier Shirley James. She measures and weighs a finished towel from each roll of woven cloth.

FINISHED TOWELS are packaged near the sewing room. Heat-sealed cellophane-topped boxes are used to show the color and design of individual towels and matched sets. The packaged towels are shipped straight to retail stores.

quards. When textured patterns are woven, dobbies are removed from the looms and stored in a warehouse; and the jacquard motions are used. When simpler patterns are woven, the jacquard ends are tied up, and the dobbies are operated.

In most cases, loomfixers are trained to fix on both dobbies and jacquards. Style changes from dobbies to jacquards, or vice versa, are made rapidly. Recently, two sections of looms were changed from jacquard weaves to dobby weaves in a two-week period.

At present, 23 patterns of cloth are being woven in 16 colors. Combinations of the patterns and colors are so varied that patterns on looms side by side are seldom similar.

Production lost by the light jobloads of employees is regained through accurately scheduled pattern changes and by the fast methods used to make

CONTINUED ON PAGE 181

Heller's WOOL JERSEY ---From Fiber to Finished Fabric

To meet the standards William Heller, Inc., has set to obtain a high-quality wool-jersey cloth—

Spinners	**check each wool lot for foreign matter, oil content, moisture, and staple length**
Knitters	**stitch perfect fabric on the needles to eliminate holes**
Dyers	**test all new dyestuffs for their application on wool jersey**
Finishers	**control quality from length and weight checks**

By JAMES H. BLORE, Assistant Editor, TEXTILE WORLD

TOP-QUALITY WOOL-JERSEY CLOTH is not dependent on a single operation, and William Heller, Inc., New York City, has a quality-control system in its mills at Woonsocket and Providence, R. I., that runs from the wool-top stage to the finished product.

Quality control starts with a check on each incoming batch of the 64s wool top for variations from the company standards. A laboratory assistant weighs out 1 lb. of the top from each new delivery and lays it over a 36x18-in. black felt-covered board. She removes all the burrs, black hairs, seeds, and other foreign matter from the wool with fine tweezers. If an abnormal amount of foreign matter is found, the batch is not used for Heller jersey.

Wool is also checked for excessive moisture content in a conditioning oven, for oil content by ether extraction, and for staple length.

Yarn Preparation

A week's supply of wool top is kept on hand and stored near the two sets of reducers. Four ends of top are fed to the latest-type Holdsworth two-delivery gill reducers. The reducers have electric stop motions on each of the four ends to stop the machine if an end breaks or runs out.

The deliveries of the drawn-out fiber are made into 15-in.-dia. cans, and 15 ends are fed to a three-delivery Holdsworth reducer to further blend and attenuate the fibers. An automatic counter on this machine stops the machine when the cans are full.

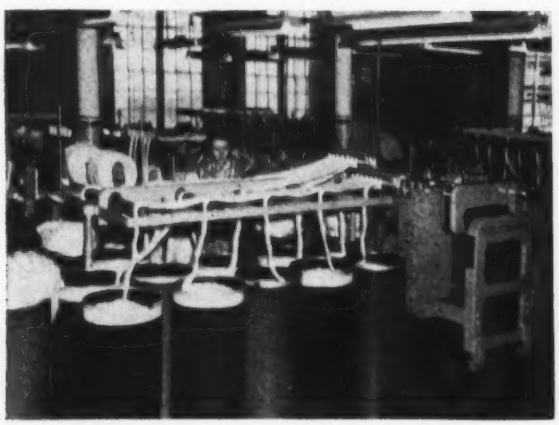
A Warner & Swasey pin drafter is the next machine to process the sliver. Sixteen slivers from the reducer are fed to the pin drafter, and four deliveries are made. The sliver from the pin drafter is checked daily for size.

The sliver is made into roving on four Saco-Lowell FS-4 100-spindle roving frames attended by one girl. The sliver draft is about 14 on the three-over-four drafting system. The roving is checked for correct size every shift.

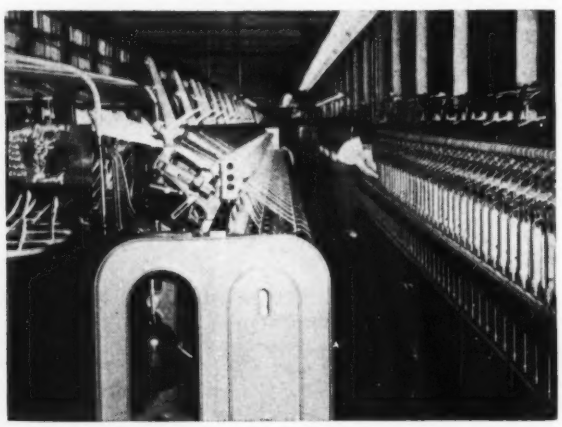
The bobbins of roving, weighing about 2¾ lbs., are transferred to new Saco-Lowell SS-4 spinning frames that have 100 spindles on each side. The bobbins are on ball-bearing spindles; and a lever, resting on the roving, operates a brake to compensate for the bobbins' decreasing size.

Spinners Work As a Team

Each of the 14 spinning-frame motors has a variable-speed drive that allows the spindles to be driven at 6,500 to 7,500 rpm. When the yarn is ready for doffing, the four spinners



SECOND PROCESS in the yarn manufacture consists of running 15 ends to a three-delivery Holdsworth reducer.



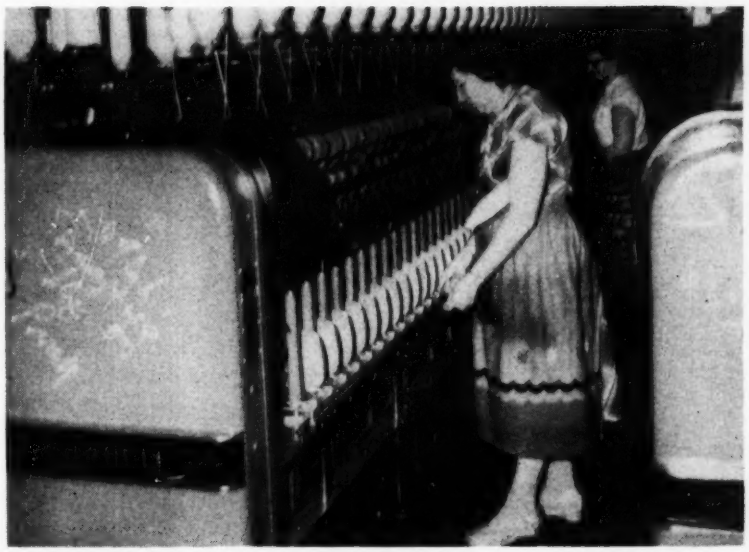
ROVING FRAMES are tended by one girl. Each frame has 100 spindles and is equipped with three-over-four drafting system.

work as a team and help doff the frame. The frames are down for only 3 mins., although each spindle is thoroughly cleaned with the air hose. The yarn is checked for correct size every shift.

The yarn is then wound through paraffin-wax disks on two Universal Roto-Coners at 500 yds. per min. The yarn is wound onto cones with as little tension as possible, and the Microset slub catchers are set at 0.017 in. to remove the slubs and thick places from the 26s yarn.

The yarn is steam set in an HW conditioner for 10 mins. at 190° F. dry-bulb temperature to set the twist and prepare the yarn for knitting.

Humidity conditions are carefully controlled to supply the winding and knitting rooms at 55% r.h. George Steere, superintendent of yarn manufacture, finds that 60% r.h. in the spinning section and 65% r.h. in the roving and reducing sections give the best-quality yarns.



SPINNING FRAMES are down for only 3 mins. during doffing because all four spinners help to doff and clean one frame.

Knitting

Crane spring-needle machines are used to knit the yarn into jersey cloth. Oil stains on the cloth have been reduced by eliminating overhead shafting. A 1½-hp. motor is screwed to the floor between each pair of tables. The motor drives a countershaft, and the whole unit is safely guarded with a wire mesh screen.

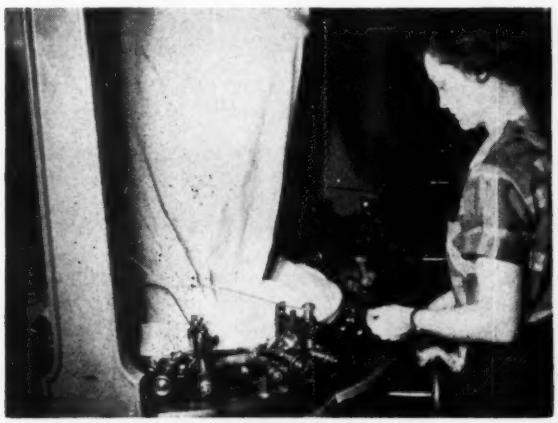
The needles are constantly checked for correct alignment by the knitters and by Superintendent Walter Kitchen. Ten feeds are arranged around the cylinder to allow a gap at the front of the machine where the fabric can be run back onto the needles stitch by stitch if a serious fault occurs during knitting.

The machines are well protected by electric stop motions. Two Wesco stop motions arranged above each other over the yarn creel keep press-offs low. An additional hole detector at the back of the machine is connected to the electric stop motion to prevent complete press-offs.

Here again, tension on the yarn is stressed so that the sinker burrs act smoothly without damaging the yarn. A guide fixed to each shoe bracket reduces the angle of the cloth so that the cast-off burr can be lowered to its minimum height to create less tension on the cloth.

A new-type spreader, developed by Heller, is also used to equalize tension around the cloth tube. The new-type spreader is divided into two sections and allows a better knitting job to be done.

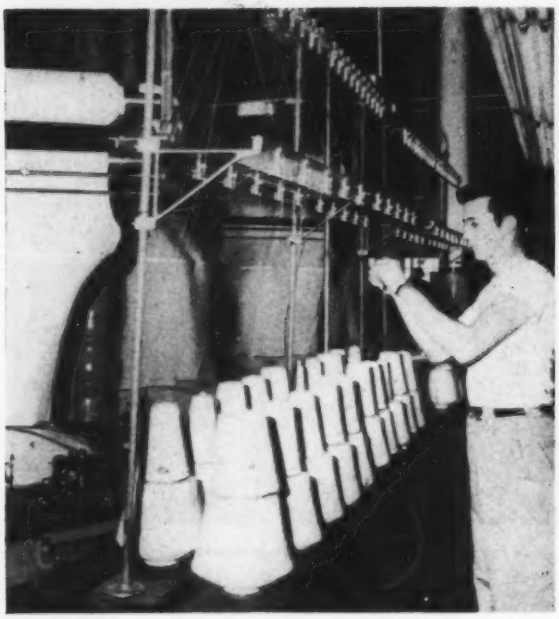
A better knitting job also is done on the machines that use jack pressers



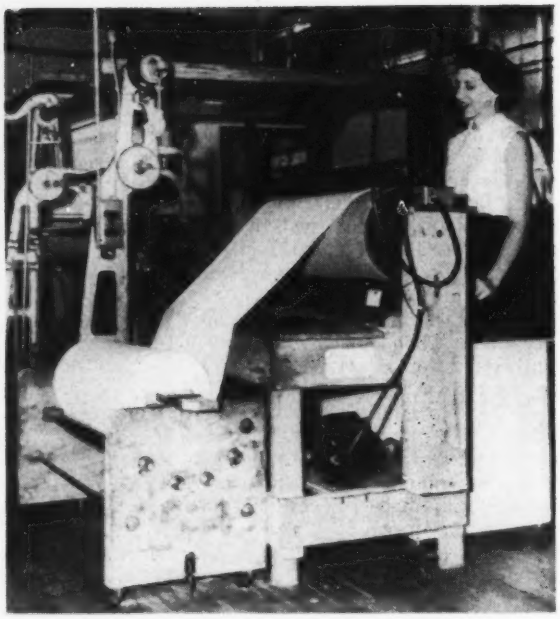
STITCHING on fabric is a highly skilled operation. Stitches are placed back on needles stitch by stitch to eliminate holes.

FABRIC TENSION is kept to a minimum to assure smooth knitting. The cloth roll on the cylinder helps keep machine clean.

Heller's Wool Jersey *(Continued)*



ELECTRIC STOP MOTIONS are arranged over pigtail-tied cones, and electric hole detectors cut down on press-offs.



BALL-BEARING ROLLERS support fabric roll so that minimum tension is placed on the cloth during first inspection.

by keeping the pressers under the control of a heavy weight.

Machines are kept oiled and cleaned by a knitter who looks after four heads. Oiling of the burrs is done when the roll is doffed so that any dirty marks resulting from oil stains appear at the end of the roll and can be easily cut off. The inaccessible places behind the burr ring are cleaned with a 16-in. roll of cloth looped on the cylinder screws. This cloth is revolved with the cylinder for a few revolutions at the end of every piece.

The machines run about 35 rpm., and about 6 hrs. are required to knit a 35-lb. roll. All rolls are made the same size. A mark on the take-up bracket indicates when the roll is nearly ready for doffing. A final check is made with a caliper. A colored thread is looped in the cloth at the end of each shift so that any variation in the fabric quality can be traced to the knitter.

Inspectors Check Cloth Weight

After knitting, the fabric rolls are sorted out according to style and weight and are sent to the gray-inspecting department. Every piece is examined and checked over an inspecting frame. Faults that have missed the knitter are tabulated and repaired.

Each roll is carefully weighed and measured to check the weight per yard. A report is made to the knitting-room personnel when deviations from the standard are recorded, and the knitting machine the roll came from is adjusted.

Each time a knitting machine is changed to a new style or weight of cloth, the foreman fixer checks the first roll with the inspector before production of the new lot is begun. A roll is placed in a scray that has ball-bearing rollers to allow the fabric to turn freely without stretching when the fabric is drawn through the inspecting-machine rolls. After inspection, the fabric falls loosely into a truck.

The truck is moved to a measuring machine where the fabric is run over a friction roll and the length of the roll is measured. The reverse side of the fabric is inspected on this machine.

A stock clerk records the weight, length, knitter, and machine number of each piece and dispatches the rolls to the dyehouse.

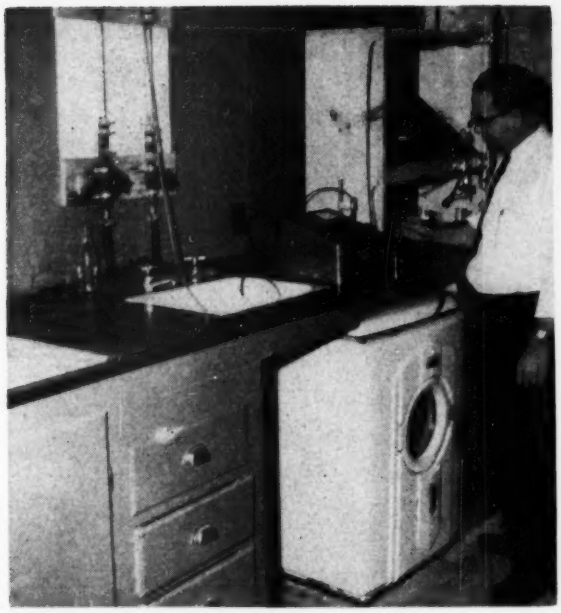
Dyeing and Finishing

The fabric is placed in gray storage until color and finish orders are requested. After scouring and fulling, the cloth is dyed in one of the 22 stainless-steel dyeing machines. The dyehouse has a capacity of 1,000 pieces daily.

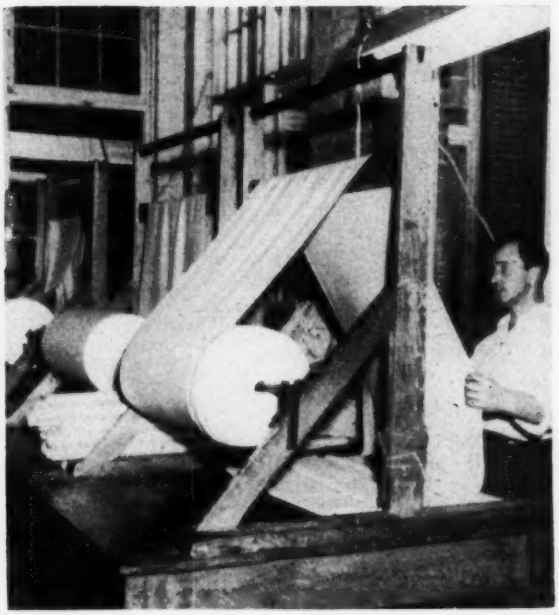
Each batch is checked after drying for weight and length. The weight per yard is calculated, and any deviation from standard requires adjustments on the calender and decating machines.

The Hellerizing shrinkproofing method is controlled from a chemical-control room. A chemist regulates the flow of chemicals to the shrinkproofing unit. The chemicals are fed to an enclosed unit where the cloth travels at a slow speed in a relaxed state between two endless belts. The chemist also checks the pH and free chlorine every 5 mins., and the fabric is constantly checked in the same room for dyeing properties and stability.

The dyehouse staff, under the direction of Art Gaudette, is constantly on



CONTROL ROOM of Hellerizing shrinkproofing process is a laboratory where chemicals are checked every 5 mins.



FINAL INSPECTION is done on these frames after decating. The tolerance in weight variation is only 1/10 oz. per yd.

the lookout for new dyestuffs that can be applied to wool-jersey fabrics. Each new dyestuff that is introduced goes through many tests before it is accepted. These tests include fastness, crocking, and shrinkage tests.

Each new lot of fabric that enters the dyehouse is tested for shrinkage. An 18-in. square of fabric is put through a laundry machine for 30 mins., extracted for 15 mins., tumble dried, and conditioned for 8 hrs. If the measurements after this procedure do not come up to standard, the batch is rejected.

After decating, each piece is measured, weighed, and inspected over a frame. The tolerance allowed is only $\frac{1}{10}$ oz. per yd. The Heller trademark is transferred on every piece, and the rolls are parceled and delivered to the stock room.

Conveyor Treats Fabric Gently

An interesting conveyor system has been installed to remove the rolls to the stock room. Handling is cut to a minimum, and the system has been specially designed to treat the fabric with care and to prevent rolls dropping on their ends, which might cause width variations.

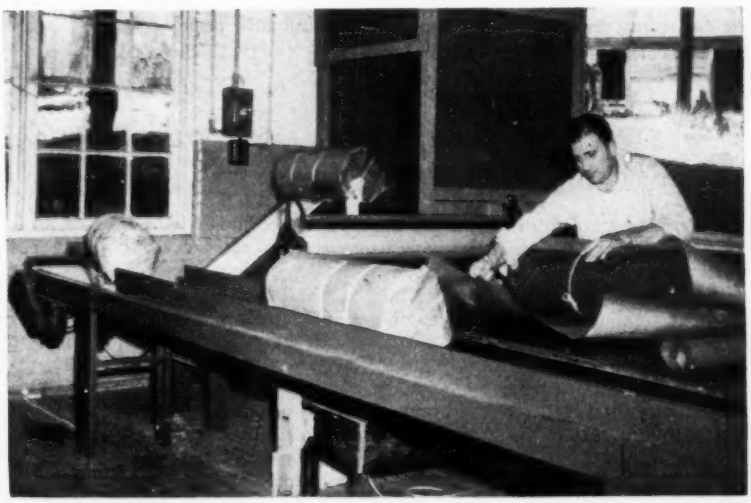
A conveyor, running behind the parceling counter, moves the rolls to a deflector that transfers the rolls to a 45° conveyor to lift the piece to an inclined table. An endless chain with a number of projecting arms works in a vertical direction; and when a parcel rolls onto an arm, the parcel is lifted to the second floor and deposited on another conveyor.

This conveyor runs through the shipping room and is equipped with two adjustable deflectors. The deflectors allow the parcels to fall onto an inclined chute in the shipping room if the deflectors are put into action. If the deflectors are moved out of action, the parcels pass along a 120-ft. conveyor band to the stock room.

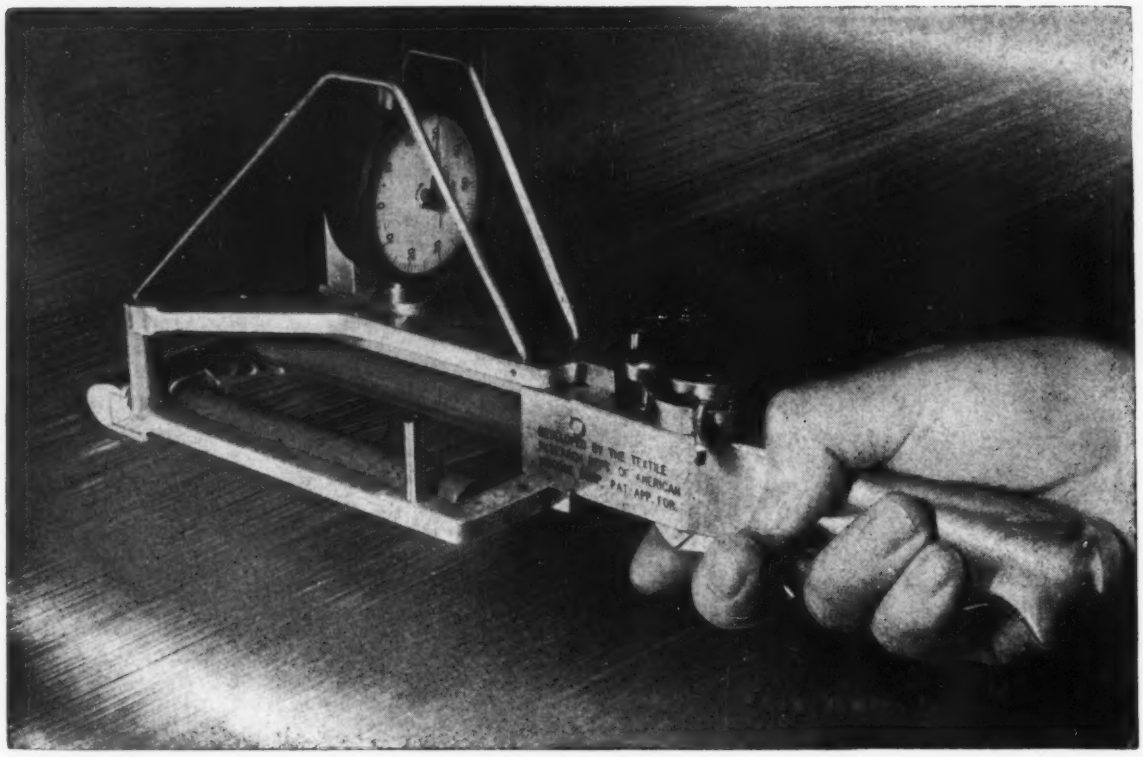
All stock racks are keyed with a number and a letter. A stock card on the end of each rack is duplicated on a master chart in the office.

The motor that drives the shipping-room conveyor is reversed when parcels are required to be moved from the stock room to the shipping room.

As Walter Kitchen says, "It's not one technique that makes the high quality of Heller jersey; it's a combination of a hundred and one techniques."



CONVEYOR SYSTEM begins at the parceling counter and lifts parcels gently onto vertical elevator.



THE SLASHER TENSIOMETER developed by American Viscose Corp. measures tension on 4½ ins. of the warp sheet coming from a section beam. It is useful for quickly checking and equalizing tension on the different beams to guard against shadow streaks. Jaws of the instrument open so that they can be easily slipped over the edge of the warp sheet.

How To Eliminate Filament-Fabric

▶ Defects in filament-yarn fabrics known as shadow or pattern streaks may be caused by uneven slasher tension. To eliminate them, equalize tension so that yarn luster is constant.

By **WILLIAM P. CRAWLEY,** Textile Research Dept., American Viscose Corp.

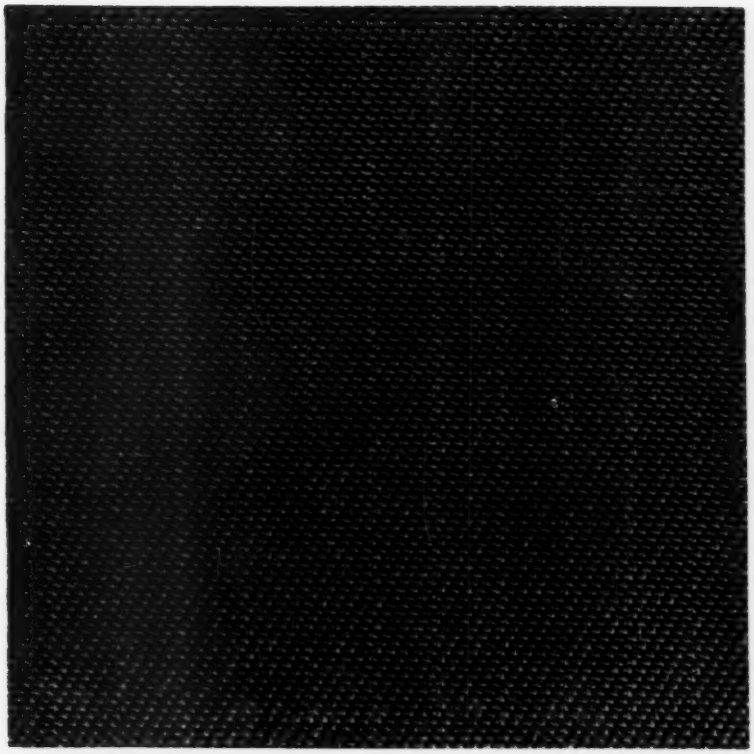
SHADOW STREAKS (also referred to as shadow stripes or pattern streaks) are a particular type of warp-streak condition more or less familiar to weavers, finishers, and converters of filament-yarn fabrics, especially rayon and nylon flat goods. These streaks are recognizable in that they appear in a regular pattern repeating every few ends; sometimes the impression is gained that they were planned as a pattern effect. In spite of the familiarity of some mill men with these streaks, details of their cause and correction apparently are not too well known.

The accompanying photograph of a fabric illustrates a rayon lining containing shadow streaks.

The unfortunate fact is that often the streaks are not visible until the goods have been finished. Then, of course, so much time has elapsed that corrective measures, if known, are sometimes too late to avoid large quantities of defective fabric.

Shadow streaks may appear in repeats equal in number of ends to the number of section beams or to twice the number of section beams, depending on laying-in details. The result is one end or a group of ends showing a different luster than adjacent ends. The term "shadow" comes from the fact that, inasmuch as the streaks are due to a difference in luster rather than to a distinct difference in color, they cannot be seen equally well from all angles.

In the fabric photograph, each streak consists of two adjacent ends showing a different luster than the other more-normal-appearing ends in the warp. This difference in luster was produced by excessive tension on these two ends at the slasher. Streaks may occur, also, if these ends are run with less tension than the others. The more-lustrous ends are not tight enough to be termed tight ends but rather are the result of slight overstretching. Physical tests on the different yarns confirm this fact. Intensity of the streaks will vary according to the tension differential between the normal and the overstretched ends.



THESE SHADOW STREAKS in a rayon lining fabric were purposely made for illustrating the effects of uneven warp tension. The light streaks were each made by putting excesssive tension on two ends of yarn at the slasher. Overstretching changed the luster of these ends.

SHADOW STREAKS

Where Defects Occur

The cotton-system slasher is the location at which this defect most easily occurs, especially with rayon, because of the wet conditions at sizing. Processing steps prior to slashing also will bear investigation; but when streaks appear in a pattern corresponding numerically with the number of section beams in the set, the indication is that section-beam tensions were not uniform at slashing.

Reasons for different tensions on certain yarns, of course, are traceable to variations in braking force on the individual section beams. Any one of several factors may contribute to this variation. Following are some of the more frequent causes:

Excessive brake weight on certain beams

Interference with free-hanging weights

Faulty, dirty, or improper-size brake ropes

Rough or dirty beam-flange rims

Beam support bearings faulty or binding

The pattern of these streaks is determined by the number of section beams, position in the creel of the beam or beams carrying excessive tension, and whether a single- or a double-hook reed is used for leasing. The hook reed normally has no part in producing the uneven tensions, but it does determine whether the pattern repeats on a number of ends corresponding to the number of sections beams or to twice the number of section beams.

Pattern Depends on Ends Arrangement

Apparently, it is not too well known that a double-hook reed in normal leasing produces a reversing of ends in alternate groupings, by dents, according to section-beam number. For example, the ends from a six-beam set—in the lease, on the loom beam, and in the fabric—are not arranged in regular repeats of 1, 2, 3, 4, 5, 6 as obtained with a single-hook reed, but rather in repeats of 1, 2, 3, 4, 5, 6. 6, 5, 4, 3, 2, 1.

The same arrangement holds also for an odd number of beams. This fact can readily be demonstrated on a slasher by tinting yarn from each beam a different color on a spot that will coincide at the lease strings and then examining the yarn for pattern. It will be seen that the arrangement mentioned exists. Therefore, with a double-hook reed, if section beam No. 1 or No. 6 is run with excessive tension, a pattern of 10 normal ends and 2 adjacent ends showing as a streak will appear. With a single-hook reed, generally the streak would consist of a single end that repeats every six ends.

However, in the case of odd-beam sets, which some mills do successfully run with single-hook reeds, it is possible to get the same streak pattern as with a double-hook reed if the odd beam should happen to be the one carrying the excessive tension and if it is the beam that has been lain two ends in alternate dents as is necessary in such cases.

Streak Patterns Vary

Thus, it can be seen that a number of different streak patterns may occur, depending, in addition to the type of reed and number of section beams, upon which beam or beams and the degree to which they are over or under tensioned.

In repeated commercial-scale tests, it has been demonstrated that these streaks in rayon goods can be made to come and go at will. This streak control is done by increasing the tension 20 to 25% on one or two beams to make the streaks appear and then equalizing the tension on all beams to eliminate the streaks.

Frequent changes in speed or stops and starts of the slasher often produce these streaks in short lengths of fabric because of overrun and nonuniformity in the starting of section beams. Also, they often occur at the beginning of a warp near where the lease was taken; they may be especially noticeable when leasing is done with the machine in slow motion.

Therefore, mills checking head ends for shadow streaks get a more-accurate picture of how much their fabrics are affected by this defect if they scour and dye the last end from the first cut

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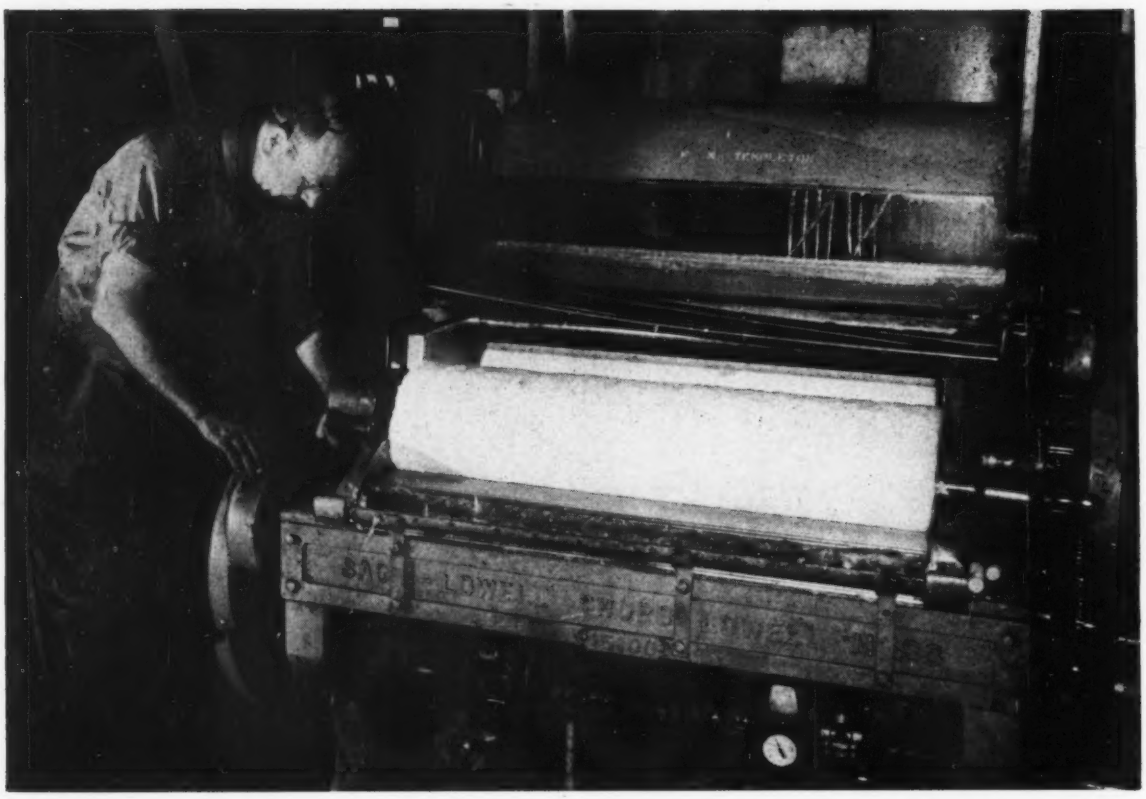

PICKER NO. 1 is the personal responsibility of F. M. Templeton, who is checking a chain drive, one of his daily checks. Fixer's names are on every picker. Picker tenders keep a record of laps made on the blackboard on the beater cap. Lap pins are kept on the picker.

PICKER MAINTENANCE
At Joanna Cotton Mills

► Each fixer is responsible for four pickers, and he's armed with a check-list that reminds him which jobs must be done every shift, daily, and weekly.

By JAMES H. KENNEDY, Managing Editor, TEXTILE WORLD

At Joanna Cotton Mills Co., Joanna, S. C., picker maintenance is put on a personal basis. Joe Delany, superintendent, says, "You can't overemphasize picker-lap evenness. The only place you can correct mistakes made on the picker is in drawing, and I'm not convinced that drawing can completely erase unevenness that started with the lap. That's why we spend a lot of time and money on our pickers."

On the surface, there's nothing unusual about the 10 Saco-Lowell two-section pickers with five condensers, No. 5 air filters, and pneumatic lap-rack controls. But a closer look shows that no blade beaters are used. There's a coarse Kirschner at the back and a regular one on the finisher section. And the finisher section is equipped with the Tritex modification [TW, April, '54, p. 79].

There are three fixers, one for each shift. The first-shift man has pickers Nos. 1, 2, 3, and 4; the second-shift man has Nos. 5, 6, 7, and 8; the third-shift man has Nos. 9 and 10 and the five condensers.

The fixer's name is stenciled on the beater cap of each picker. Of course, each fixer takes care of all pickers during his shift; but the ones with his name on them are his personal responsibility for all the items on the picker checklist.

Each Fixer Keeps Weekly Picker Checklists

The checklist has 15 items and space for six days of the week. Here's how the items are broken down into jobs that are done every shift, daily, and weekly.

EVENER BELT. Each shift the evener belt is checked to make sure the buckles are right and to see that the belt is tight. Dressing is applied.

SHIPPER FINGERS. Each shift, the shipper fingers are checked to insure proper operation. The left-hand finger on the guide for the lower cone has been removed to decrease the sensitivity slightly and result in a more-even lap. Joanna's experience has been that constant shifting of the belt causes more unevenness than it remedies. Both fingers are still used on the upper guide, however.

SHIPPER BEARINGS. Weekly, the three shipper bearings are removed, cleaned, and lubricated with a light nonfluid oil or pressure-gun grease.

CONTROL BEARINGS. Weekly, the roller bearings on each side of the rake at the top of the blending reserve are removed, cleaned, and lubricated.

EVENER-ROLL BEARINGS. Weekly, the evener-roll bearings are removed, cleaned, and lubricated. The original bearing had an oil hole at the top, but this method of lubrication was not adequate. Joanna's pickers have grease fittings for these bearings now.

CALENDER WEIGHTS. Daily, the calender weights are checked to make sure that they clear the floor and swing freely. The linkage sometimes slips and must be taken up.

CALENDER RACKS. Weekly, the loggerheads are checked to make sure that both are at exactly the same height. An empty lap pin is put in, the heads are put down, and an adjustment is made if the pin rattles. The plain bearings on the lifter shafts at Joanna are being replaced with ball bearings to eliminate jumping and get better laps with more-uniform let-off.

EVENER LINKAGE. Each shift, the evener linkage is checked for links out of mesh and blown down with an air hose. At the same time, the Tritex section is cleaned out with air.

SAFETY KNOCK-OFFS. Weekly, the pedal is checked to make sure that it almost touches the knock-off lever.

CALENDER CHEEKS. Daily, with a piece of fine emery paper, the calender cheeks (particularly the right front one, which gets all the wear as the pin is dropped in) are polished. Fibers caught on the cheeks are potential neps or waste. Joanna's lap pins are $\frac{1}{8}$ in. larger in diameter than conventional pins to improve contact with the fluted rolls and thereby get easier start-ups. The lap pin is also set in a trough lined with oiled fabric to improve start-ups.

SPLIT LAPS. Every morning, a lap from each picker is numbered, and the ten laps are put on the first group of cards that are running out. The cardroom overseer and shift foreman watch these laps carefully for splits or other defects. All the pickers are equipped with split-lap preventers.

LAP WEIGHT. Every day, a lap from each picker is checked for weight and evenness by the quality-control department.

MISSING FINGER on lower shipper rod reduces sensitivity of the evener motion slightly but helps to produce more-even laps because overcorrection sometimes creates unevenness.

BELTS. Daily, all belts are checked, cleaned, and dressed.

The fixer keeps the checklist until the end of the week and then signs it and turns it in. The cards are kept on file in the overseer's office.

SAFETY IDEAS

What is the best way to keep up interest in safety?

At one mill, each department is graded once a month on a demerit basis. Each department starts out with 100, and demerits are subtracted to get the monthly grade. The shop is inspected on the same demerit system. The demerits:

Bottles not in proper container	2
Broken bottles anywhere	5
Protruding nails	5
Metal pieces not in proper place	2
Rags not in proper container	2
Improper storage of supplies and equipment	4
Fire hazards	5
Oily or slick floors	2
Improper containers or containers not used properly	2
Unsafe practices	3
Improper or unsafe storage of cloth	4

The inspection day is staggered, and the department doesn't have much notice. The mill hasn't had an accident since the inspection system was started; but this record cannot, of course, be traced directly to the system.

At Christmas time the department with the best score is rewarded; up to $5 for each employee in the department is put into a banquet or a gift. This practice puts competition into the program. Also, the mill awards a $25 savings bond each month for the best safety suggestion. Incentives are necessary to make any program work.

The supervisory council meets once a month in a downtown hotel and discusses a topic chosen for the month; then each supervisor talks to each man in his department about the topic.

GRADY WEBB, JR., of Langdale, was elected general chairman to replace last year's chairman, H. M. Clark.

B. J. ARMISTEAD led the first part of the discussion aimed at better-running production machines.

CHARLES H. MOODY ended the day's questions-and-answers session by leading the supply-system talks.

How Alabama Mill Men Control MAINTENANCE and SUPPLIES

Methods given tell how mills—

- **Keep track of maintenance labor costs**
- **Repair worn machine parts**
- **Control supply-parts inventory**

THE DISCUSSION AT THE spring meeting of the Alabama Textile Operating Executives at Auburn, Ala., showed that production executives are giving more thought to control of shop practices for better-running production machinery and more-efficient use of shop labor. They're also keeping their fingers on supply costs.

Subjects discussed are divided into two groups for presentation in TEXTILE WORLD. This report covers mechanical problems. Next month the discussion on electrical problems will be presented.

How Mills Keep Track of MAINTENANCE LABOR COSTS

IN MOST OF THE mills giving their methods for keeping track of labor costs on shop jobs, overseers and second hands in production departments write orders to the shop for work to be done by maintenance-department employees. In a few cases, section men write the orders.

Check-Off Systems are Used

Verbal orders are sometimes accepted for minor repair work to be done, but written orders are required for all major repair jobs.

Seven mills use a card system for at least partial inspection of machines under the care of the maintenance department.

Three mills are using time clocks to keep track of time used to make the various inspections and repairs required by the card-inspection system. One other mill has ordered time clocks and expects to use them soon in connection with the card system.

Details of five representative mills making reports on their maintenance-department practices are:

Mill A—"At the end of the shift, the foreman of the maintenance department charges the manhours to the production departments throughout the plant. Electricians, welders, pipe fitters, and some other mechanics make out their own time tickets and give them to the master mechanic's clerk.

"The clerk processes the time and charges the manhours used to the production departments. The manhour reports are broken down into work done by machinists, electricians, welders, tinsmiths, carpenters, painters, pipefitters, and utility labor."

Job Repairs Are Timed

Mill B—"An order for work to be done by the shop is written by the production-department head and sent to the shop. When the order is received by the shop, the time of arrival is recorded on the order.

"If it appears that the order will require considerable time to complete or that the cost will be higher than

New Officers

The following officers were elected to head the Alabama Textile Operating Executives:

Grady Webb, Jr., Langdale, Ala., general chairman

W. E. Williams, Sylacauga, Ala., vice general chairman

Cleveland L. Adams, Auburn, Ala., secretary and treasurer

W. T. Curry, Alabama City, Ala., executive committeeman

normal, the order is given to the shop supervisor for approval. If he approves, the order is given to the shop foreman for assignment. The orders are given priority as they are received.

"As soon as a maintenance mechanic for the particular-type job is available, he is given the job. When the job is assigned to a man, the shop foreman records the name of the man and the time the job is started on the order. Then the order is returned to the shop office to be held until the job is completed.

"As long as the mechanic continues on this job, his time is charged to the department from which the order originated. The shop foreman also uses a job-summary sheet to record the time the job was started and the type of job. When the job is completed or if the mechanic is removed from the job, the time of completion or the time of removal is recorded on the job summary.

"At the end of the shift, the summaries are removed from clip boards in the shop and transferred to the shop office for processing. Here, the work-order man classifies each job and totals the time taken to complete the job. When more than one man is used on the job or when the job isn't completed in one day, all time used is recorded at the end of the job.

"The time spent each day on work for each production department is charged to that department; and at the end of the week, the time is totaled and sent to the cost department for credit."

Inspection Is Scheduled

Mill C—"We demand a written order for each job. When a production supervisor calls on the telephone and reports a breakdown, he writes an order and puts it on a machine or gives it to the shop mechanic when he arrives.

"The shop man signs the order when he finishes the job and gives it to the shop foreman. The shop foreman files work orders and keeps them three months so that if a bad job shows up we will have a record of who did the work.

"Corrective measures are taken on bad jobs. If excessive orders show up on certain jobs, the maintenance-department overseer discusses the problem with the production-department overseer to try to determine whether the trouble is improper operation of the machine or poor repair work.

"We have a card system for routine inspection and repairs. For instance, our oiler has a certain month to oil line shafts, grease bearings, and oil motors. Humidifier men have schedules for cleaning tanks, strainers, turbo heads, and regulators.

"We have a card for each motor in the mill. The card is marked any time a motor is rewound or a bearing replaced."

Mill D—"We are trying a time-clock system on the second shift for mechanical jobs. The system has a lot of bugs in it now, but we're improving it.

"The mechanic fills out work orders or receives work orders from production departments. When he starts to work on a job, the work order is stamped in the time clock. When the job is finished, the card is restamped.

"This system shows the time of day the repair was made and also the time required to make the repair."

Mill E—"A filing system is being worked out to keep up with orders from each department. We will control each job of any importance from the time the order is written."

How Mills Reclaim WORN MACHINE PARTS

TEN MILLS REPORTED THAT they metallize machine parts for repairs. The mills are successfully metallizing these loom parts: take-up rolls, crankshafts, camshafts, various journals, beams, friction-disk shafts, and cloth rollers.

Some mills have had bad results with metallizing loom crankshafts. The trouble is that the surface around the keyway at the drive gear breaks after being metallized.

Other mills have overcome this trouble. The best method seems to be to cut the keyway surface down more than surfaces are commonly cut for metallizing, cut rough 1/16-in. threads, and then metallize with 1/16-in. metal. The keyway is then remilled.

Another practical tip on metallizing loom shafts is to coat the hot shafts with oil if the surface being metallized is to fit against bearings in the loom.

The tapered surface of the loom-motor shafts was not successfully metallized by any mill reporting on the subject, although straight shafts for motors other than loom motors were successfully repaired by the metallizing method.

Motor shafts were metallized at the bearing surfaces with success. One mill uses a spray bond for this application, and then the shaft is turned down with a rock.

Slasher parts metallized are: rolls for the size box, stainless-steel size-roll shafts, 9-in. copper rolls, and cast-iron rolls.

Opening, picking, and carding parts metallized are: feed rolls, shafts, picker beaters, calender rolls, calender-roll shafts, worm-gear shafts, cones, sprocket shafts, coiler-head shafts, card doffer and cylinder shafts, and steel-roll necks.

These parts are metallized in spinning: spindles, motor shafts, and worm shafts.

Bleachery parts metallized are log-roller journals for the washer, jointer-knife journals, vacuum-pump crankshafts, and squeeze-roll journals for dye tubs.

Miscellaneous parts metallized are: pistons for boiler-feed pumps; various shafts, journals, and studs; water-pump parts; and repair parts for general overhauling throughout the mill.

Tips for Metallizing Safely

All mills are using adequate safety measures when thy metallize. One mill suffered a $200 fire loss from inadequate protection. The glass flow-meter tube cracked and let gas from the metallizing gun set fire to the regulating equipment. Now, the tanks, regulating equipment, and gun are spaced far enough apart to prevent damage.

General practices followed by the

mills in metallizing are:

Mill A—"While shafts are still hot from metallizing, we paint the part with graphite and oil. This practice gives good results.

"On our loom take-up rolls, we knurl the surface and then put on one layer of No. 80 carbon steel and one layer of stainless steel.

"For safety, we use an exhaust fan in a hood back of the work and direct the flame from the gun into the opening of the hood. This setup removes the fumes satisfactorily. Our operator always uses goggles.

"We use acetylene gas from a generator located in the welding shop. We also get good results from a gas flow meter because it gives a better flame balance."

Mill B—"We use only one lathe for metallizing because metallizing ruins a lathe for other purposes."

Mill C—"We wear goggles, use an exhaust fan for the fumes, and, when using sand-blasting equipment, enclose the work in a case or have the operator wear a rubber suit."

Methods Used To Repair Parts

Eleven mills are repairing worn machinery parts and reusing them. Various methods are used to determine when parts are to be repaired. Generally, all repaired parts are marked with red paint to identify them, and they're not recharged to production departments.

Mills reported these practices in connection with repairing used parts:

Mill A—"We store rebuilt parts with or near new parts. If welded or used parts are stored in another location, it is easy to overlook them when parts are issued.

"Our overseers decide what parts are to be repaired. The overseers are familiar with the operation of machines, and they can tell whether a part is serviceable, whether it will cause a related part to break, or if it will produce second-quality yarns or cloth."

Mill B—"We do not return worn or used parts to the supply room. They are stored within the departments, and the department head decides which parts are to be reused."

Mill C—"Our supply-room clerk issues new parts for worn parts and places the worn parts in a separate bin.

"The overseer of each department checks this bin once each week and sends reworkable parts to the shop. The reworked parts are put back in the supply room."

Repaired Parts Aren't Charged

Mill D—"We issue used and worn parts from the supply room on a no-charge basis. None of our fixers are willing to use anything but new parts; therefore, by not charging for used parts, we offer some inducement for the fixers to accept used parts.

"An experienced overhauler takes replaced parts from each production department once each day and separates the parts into scrap parts, repairable parts, and parts that are good and should not have been taken from the machines. The good parts are returned to the supply room for redistribution."

Mill E—"The best method to use in repairing machine parts is to determine whether the worn part can be repaired profitably. The cost of repairing the part includes labor and welding material. This cost is compared with the cost of a new part plus freight and handling charges. However, not all welded parts will work as well as new ones.

"The shop foreman decides which parts are to be repaired. He is familiar with the cost of welding materials and knows approximately the time required for each repair. He also knows the cost of new parts for comparative purposes."

Mill F—"Used machinery parts are steam cleaned, and then they are placed back in the supply room."

How Mills Control SUPPLY-PARTS INVENTORY

THE TREND IN SYSTEMS for handling supply records is toward close and total control of all supplies used. The records usually show the supplies in stock and the supplies ordered. The record system is also set up to show when the minimum number of items of any given supply part is reached so that new ones can be ordered before the supply is exhausted.

Most mills are charging supplies to the sections and departments using them. From these records, comparisons of supplies used by all fixers are made.

The records also show the total supplies, broken down by items, that are used each year. The results are that, since department heads know the supplies they're using, they are in position to control the supplies being used.

Typical supply systems taken from mill reports are:

Mill A—"For handling supply records, we have a visible card system with a perpetual-inventory balance column. All supplies are ordered on numbered purchase orders. When the ordered material arrives at the mill, there is a check slip in every case to cover the contents. The check slip is checked with the shipment and held for comparison with the invoice.

"When the shipment is received, the invoice is entered on the card with the order number. If there is any future reference to this particular order or shipment, we can easily locate the purchase order from the card.

"The invoice, bill of lading, and arrival notice are stapled together and filed."

Total Supply Costs Are Kept

Mill B—"When supplies are issued to a production department, an order must be written by an authorized person in the department. On these orders, the supply clerk records the bin number and the cost of the item.

"The supplies issued are checked off at the end of each day. The orders are charged to each department each day and are classified as expense and repair supplies.

"The daily accounts are totaled at the end of each week, and a list of the expenses is sent to each department head. If there are any questions concerning the supplies issued during the previous week, the matter is settled between the department heads and the supply supervisor.

"At the end of each month, an itemized list of supply charges is compiled and sent to the assistant superintendents and to the general office for a comparison of supply costs between each mill in the group."

Mill C—"We use the Kardex system in our supply room. The maximum and minimum inventory for each item is shown. Orders are placed when the minimum inventory is reached.

"Supplies are issued by requisition only. The issued supplies are posted daily on file cards, and the balance is brought forward. When supplies are received and paid for, they are posted on file cards. Each file card tells at any time the number of items in the respective supply bins."

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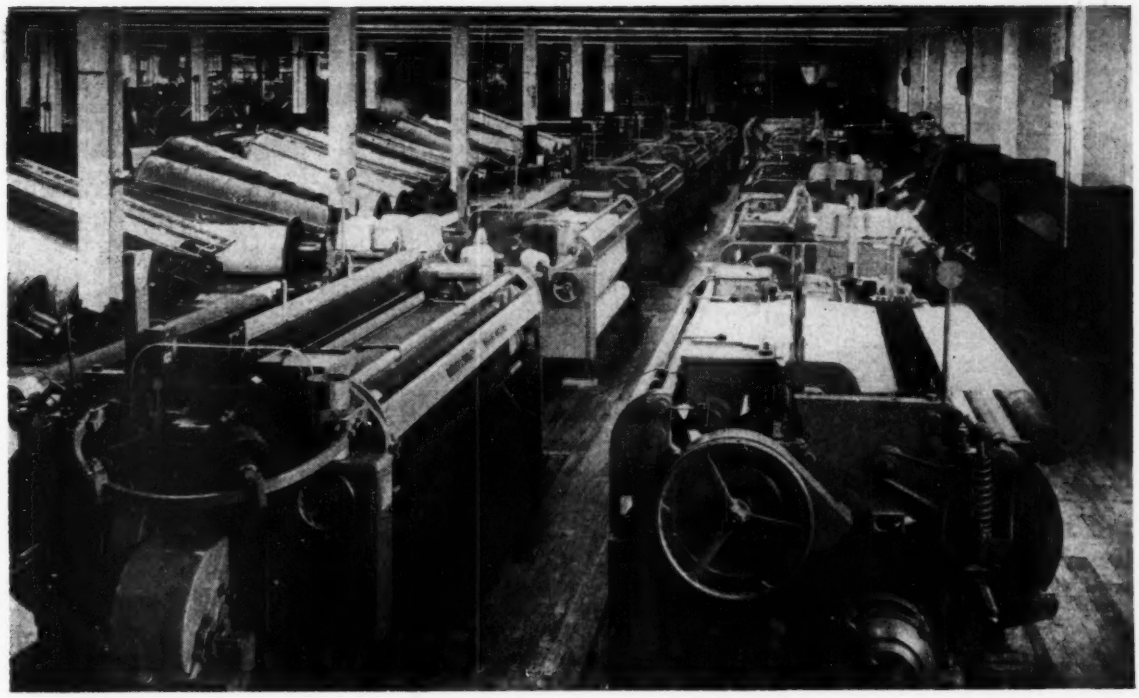
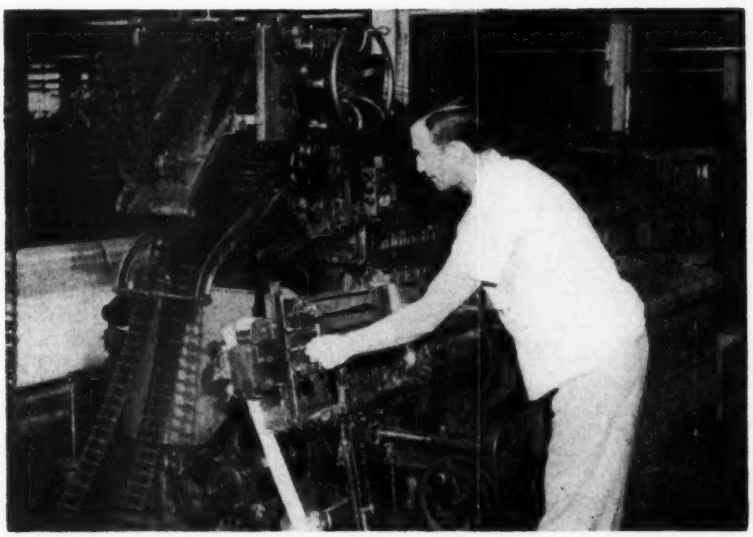


WOMEN'S APPAREL is being woven on Warner & Swasey weaving machines at the rate of 100 yds. per machine each 8 hrs. Machine Fixer Paul Luffman and Weaver Edward Atkins tend the 12 machines.

Supervisors Constantly Follow Up *WEAVING OPERATIONS at Chatham*



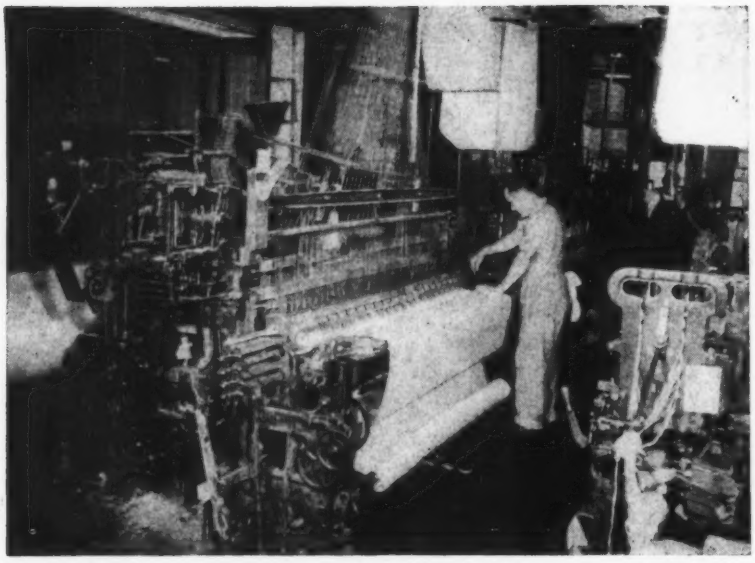
PLAID BLANKET in wool-and-synthetic-fiber blend is made on a 92-in. W-3 loom with Knowles head motion. Weaver Fred Stanley restarts a loom after a filling break. Filling is mixed on the body weave.

Chatham Mfg. Co., Elkin, N. C., has three features that keep it in top weaving condition—

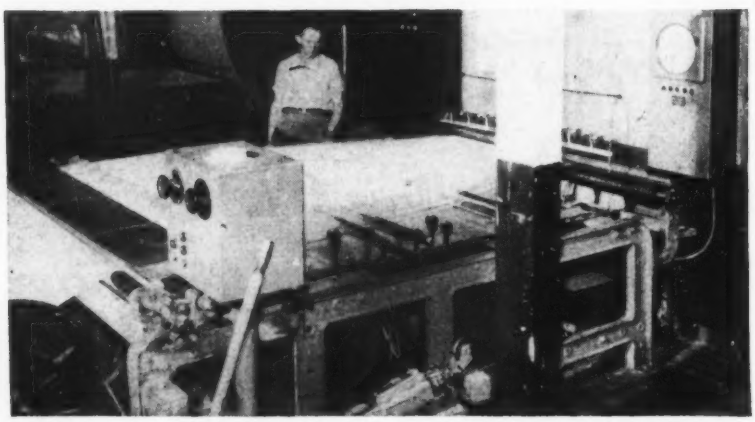
- **Diversified equipment to weave any type of woolen cloth**
- **Constantly trained fixers to keep the equipment operating**
- **On-the-job follow-up by supervisors**

By RICHARD B. PRESSLEY
Associate Editor, TEXTILE WORLD

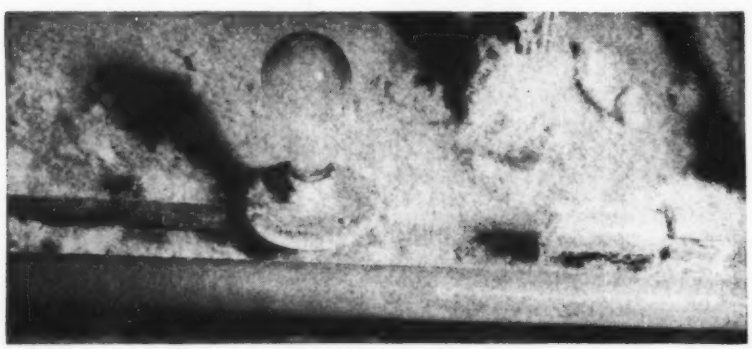
LOOMS AND WEAVING MACHINES are turning out woolen, cotton, and synthetic-fiber blankets at Chatham's Elkin plant. The mill also weaves women's apparel in woolens and worsteds and automobile-upholstery



ELECTRIC BLANKET is woven with both jacquards and dobbies on the same loom. The dobby puts in the twill body weave, and the jacquard weaves the channels for the wiring. Loomfixer Harvey Wooten makes an adjustment.



SLASHING is necessary on blended materials containing a high percentage of cotton fibers. Harvey Cook, slasher tender, spends most of his time inspecting yarns on the Bachmann Uxbridge hot-air slasher.



CLOTH INSPECTION at the loom is made easy by two 150-w. light bulbs underneath the loom. Energy comes from a transformer that cuts the 220-v. loom-motor line down to 110 v. The lint doesn't catch on fire.

fabrics in wools, worsteds, and synthetic fibers.

Equipment Is Varied

There are 416 Crompton & Knowles looms and 12 Warner & Swasey weaving machines in the plant. The looms vary in width from 92 to 120 ins. The weaving machines are 95 ins. wide.

Jacquard attachments are used on 78 of the 92-in. looms, and some of the looms equipped with jacquards also have dobbies. The jacquard-and-dobby-equipped looms are used primarily to weave electric blankets. The dobbies weave the plain part of the blankets, and the jacquards weave the channels for the wiring. The loom speed of all the jacquard-equipped looms is 108 ppm.

Other C&K looms (W-3) are equipped with Knowles head motions and are used to weave blankets, automobile-upholstery fabrics, and other materials. Speeds on these looms are: 92-in. looms, 122 ppm.; 106-in. looms, 112 ppm.; and 120-in. looms, 106 ppm.

The weaving machines operate at 230 ppm. and are used to weave patterns with single filling colors.

Loomfixer Training Is Constant

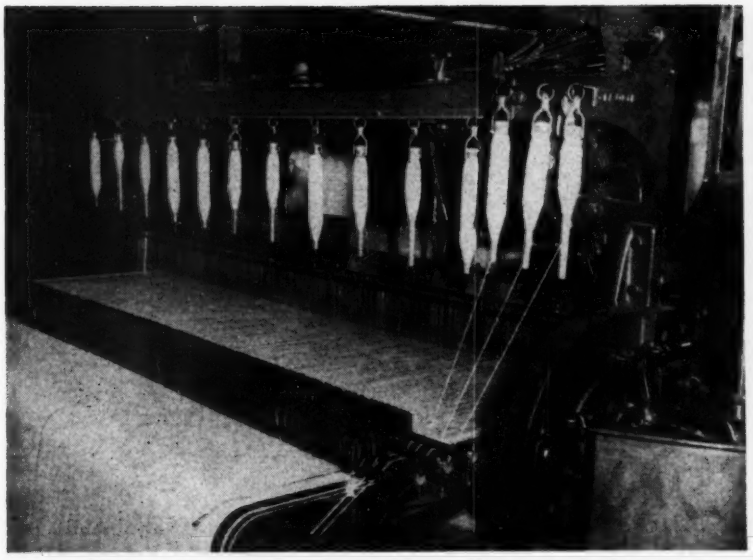
Keeping looms in good mechanical condition is the key to Chatham's successful weaving operations. Constant training of loomfixers makes it possible to keep the looms running at a high efficiency figure.

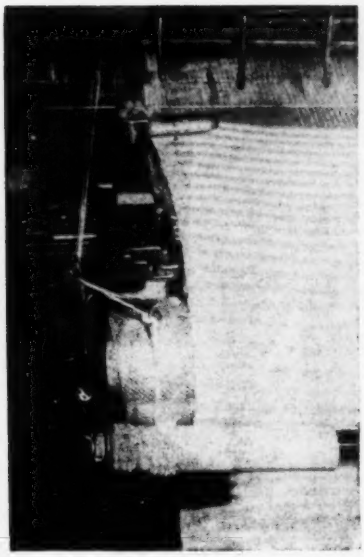
Loomfixers now on the job were trained by Loomfixer Instructor G. R. Hall. Most of the present loomfixers were weavers and were trained in special classes on looms out of production. The training included tearing down loom motions, putting the motions back together, and resetting them.

Another phase of developing loomfixers in the classes included tearing down 110-in. looms and rebuilding them as 92-in. looms.

All looms at Chatham are set to standards approved by Mr. Hall and the superintendent of weaving, N. C. Darnell. All looms on the same style of cloth are set exactly alike. Each loomfixer can experiment with one loom on his section to try to establish better settings; but in each case, he notifies the loomfixer instructor so that the other two loomfixers on the other shifts of the same section will know how the loom is set.

A company-sponsored dinner meeting is held for loomfixers, head loomfixers, and weave-room supervisors once each month. The meeting is held during work hours, and employees at work at that time leave their jobs on company time.





PIECING ENDS hang from shuttle grips fastened by rings held to the back loom arch by capscrews. A "yo-yo," the name given a filling separator that prevents jerk-backs, is formed by three bobbins on the right. The threads are lifted by the head motion, and the take-up roller pulls them off to prevent breaks from chafing.

Any proposed changes in loom settings are discussed at the meeting. Everyone present can give his opinion. Then any decision reached on any loom-setting change is put into effect immediately. As a result, every loomfixer knows how every loom should be set, and every loom is kept set that way until the next meeting when new changes are discussed.

Reports Show Progress

Loom-stop reports are made on all stopped looms that weavers cannot restart. Each weaver is given a loom-stop report sheet at the beginning of each shift. When a loom is flagged for a loomfixer, a warp break-out occurs, or a warp runs out, the weaver records the time the loom is out of production.

The report is taken up at the end of the shift and checked by the head loomfixer on the following shift. If a loom has been flagged three or four times for, say, running out filling, the head loomfixer checks with the loomfixer and helps find the trouble.

All reports are turned in to the weave-room office, where they're processed to show the exact number of loom stops, other than normal weaver's stops, each week. The reports also show the total hours lost from looms out of fix, warps out, etc.

Then the superintendent of weaving and the loomfixer instructor know what's causing any trouble; and they, along with weave-room foremen and assistant foremen, correct the trouble.

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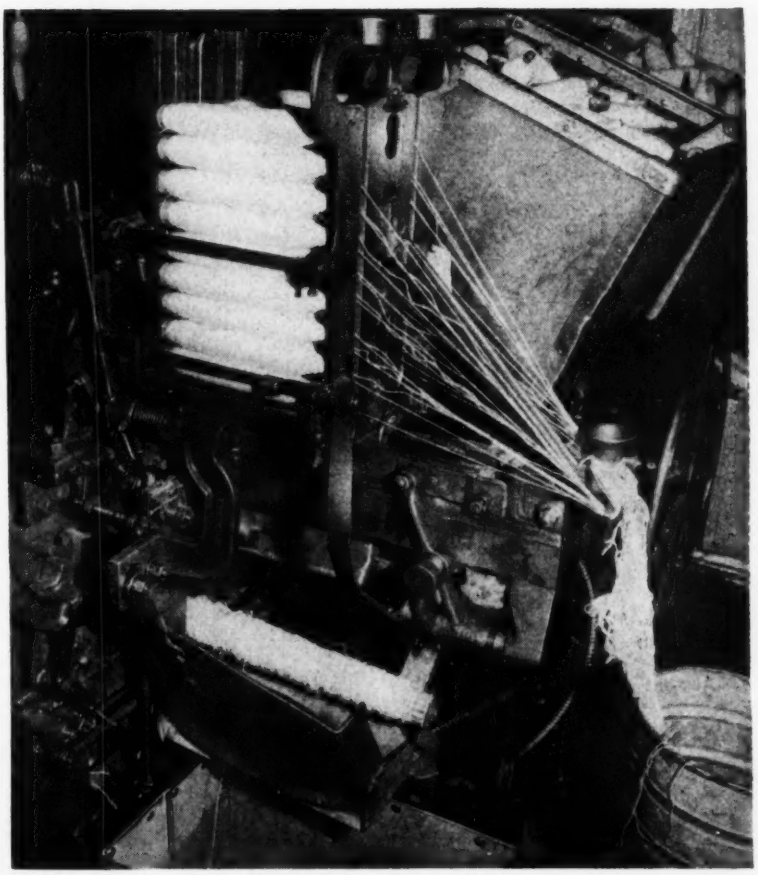
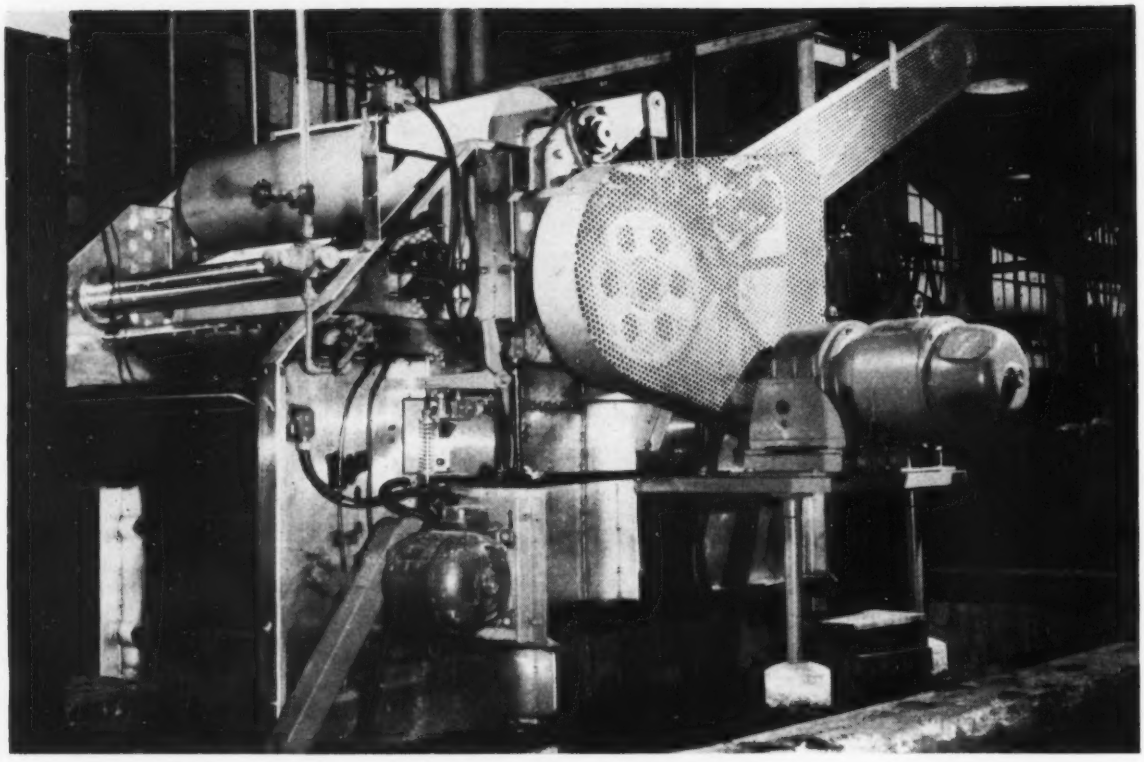
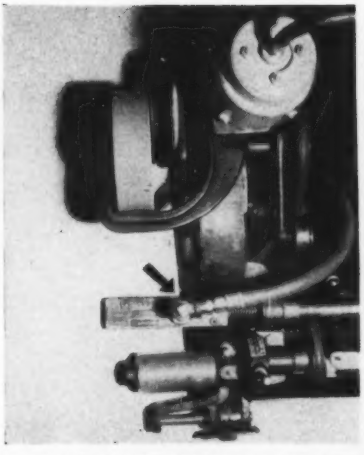


QUILL STRIPS are removed automatically by the loom-driven bobbin. The ends of transferred quills wind around the bobbin and eliminate the need of further cleaning. Quill boys wind off the few ends that remain on the quills.

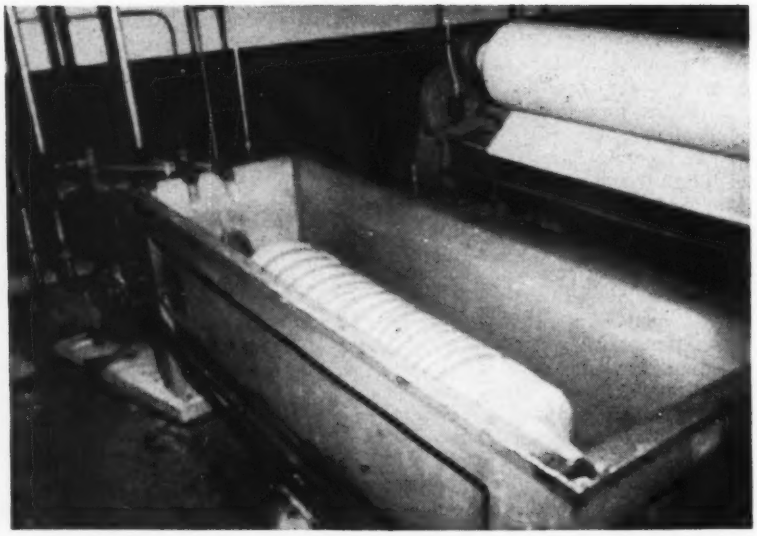


DELIVERY END of the Riggs & Lombard continuous washer delivers cloth at 45 yds. per min. Each of the nine bowls is driven individually from the large motor, and a small motor operates the liquid counterflow from bowl to bowl.

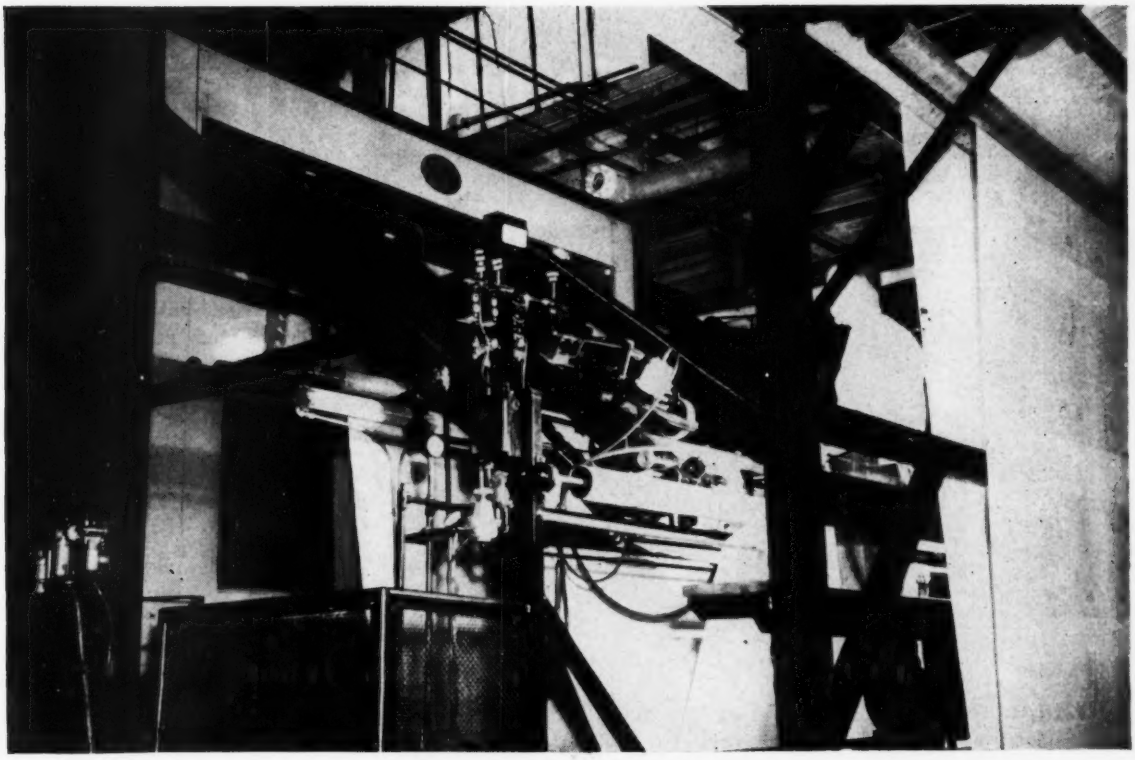
Chatham's Modernized



HYDRAULICALLY OPERATED DEVICE is used to control tenter-frame width. The cloth passes over an orifice (arrow) that expells air at 5 psi. Any movement of the cloth from side to side upsets the equilibrium and causes the feed-adjusting arms of the tenter frame to move in or out with the cloth.



CLOTH IS BOILED instead of crabbed. In this machine, the covered cloth is immersed in boiling water and steam is blown through the center of the roll for 20 to 30 mins. The finish becomes well set, and the fabric assumes luster.



CRIB-BLANKET FABRIC enters the tenter frame to be conveyed through the dryer. The addition of this dryer increased total dryer production 25%. Steam furnishes the heat for the oven.

FINISHING PLANT

Present finishing equipment at Chatham Mfg. Co. is radically different from machinery used five years ago. Seconds are down 25%. New machines contributing to higher production and quality are—

- **A continuous washing range**
- **A carbonizing range with a continuous crusher**
- **Automatic controls**
- **Piece-dyeing equipment**

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

CHATHAM MFG. Co., Elkin, N. C., now has a finishing department with equipment radically different from the machinery present five years ago. Estimated seconds are down 25% from those produced by the older machines.

Average production of the finishing plant is from 60,000 to 70,000 lbs. of finished fabric per day. Products include blankets, suitings, and automobile-upholstery fabrics.

Although wool is the major fiber being processed, Chatham also uses cotton and synthetic fibers, alone and in blends.

Cloth Carbonized Twice as Fast

Three years ago a new continuous carbonizing range was installed. This unit doubles the production of the machine it replaced.

A wetting-out operation, an acid bath, a tenter dryer, a baker, and a continuous crusher comprise the carbonizing operations.

In the stainless-steel acid tank, the concentration of H_2SO_4 is automatically regulated by a pH meter. This device controls a pump that feeds sulfuric acid to the tank.

The tenter frame on the carbonizing range is equipped with a Reeves variable-drive overfeed, and the cloth is conveyed through a tenter dryer containing two temperature controls. Yardage of cloth entering the dryer is automatically recorded on a tape.

Through the baking unit, the cloth travels up and down over rollers. Three temperature controls used in this unit assure even heating of the fabric. Both the dryer and the baker are heated by circulating hot air.

When the cloth reaches the crush-

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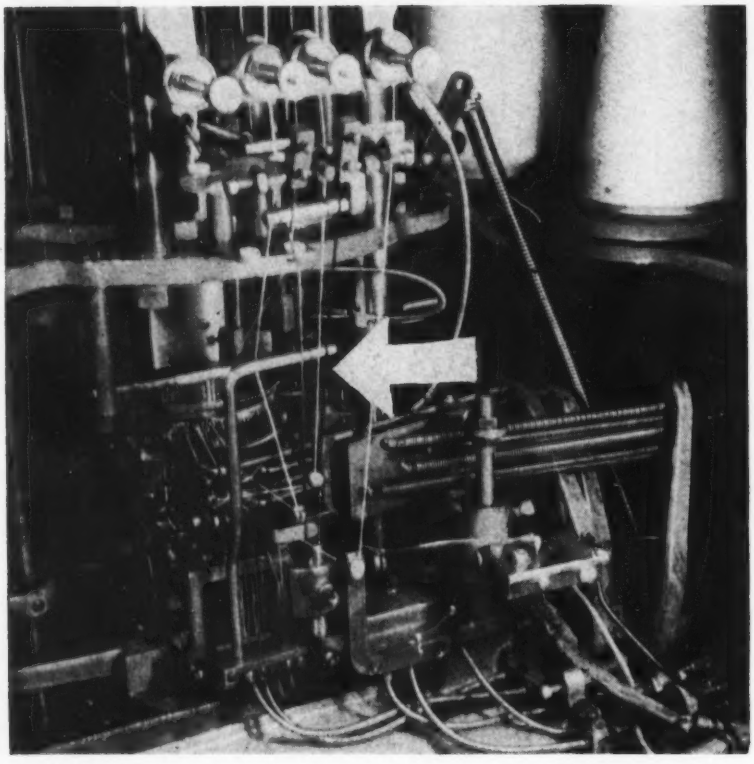
How To Knit Colored Patterns on



CLEAR SPACE around needles results from removing the plaiting attachment and using a double finger on No. 4 feed position.

COLORED PATTERNS on links-and-links hosiery are made by plaiting acetate yarn on cotton yarn. The stock is cross dyed after looping.

Better results can be obtained on Komet links-and-links machines to obtain more fancy patterns by—

- **Brazing plaiting fingers together**
- **Using correct yarns and tensions**

By COY E. MARTIN annd CECIL N. LAWING
N. C. Vocational Textile School, Belmont, N. C.

AT THE N. C. Vocational Textile School, Belmont, N. C., we make many attractive hosiery patterns in links-and-links stitch by plaiting acetate yarns on cotton yarns. The acetate and cotton yarns are knitted in the gray and cross dyed in a variety of colors. The cross-dyeing method eliminates our stock of colored yarns.

We find that 300-den. acetate yarn plaited on 36/2 mercerized cotton gives the best results on 24-gauge, 132-needle, 4-in. machines. Low tension is placed on both yarns, but there is slightly more tension on the cotton yarn than on the acetate yarn.

To prevent runs when the socks are separated, we stripe in the No. 2 finger for the last six courses in the looper rounds. The No. 2 finger is threaded with 20/3 yarn. We get a better top when we bring in the plaiting yarns for four courses before the rubber yarn comes in for the welt.

New Feed Improves Machine

The machine has been made neater and more accessible by modifying the plaiting attachment. We've brazed an extra feeder tube to the No. 4 finger and removed the regular plaiting attachment. The disk tensions have been removed from the horizontal post. The cutters, knives, and clamps for the plaiting attachment have also been removed to make the machine easier to work on.

KOMET HOSIERY Machines

The change-over means that we have one less finger to work with, but we find that four fingers are sufficient for most types of hosiery. When stripes are needed, we can soon put back the original equipment.

By brazing a plaiting finger on the regular double-feed finger, we are able to keep this finger in adjustment longer and make threading easier.

The left-hand finger projects about $\frac{1}{8}$ in. beyond the right-hand finger so that the yarns lie side by side when they enter the needle hook. The cotton yarn is fed to the right-hand finger so that the cotton is on the inside of the fabric when the needles knit in the bottom cylinder. As all sole needles are in the bottom cylinder during foot knitting, the cotton yarn contacts the foot bottom when the socks are worn. When the needles are transferred to the top cylinder, the stitches from these needles are reversed and the cotton yarn shows on the fabric face.

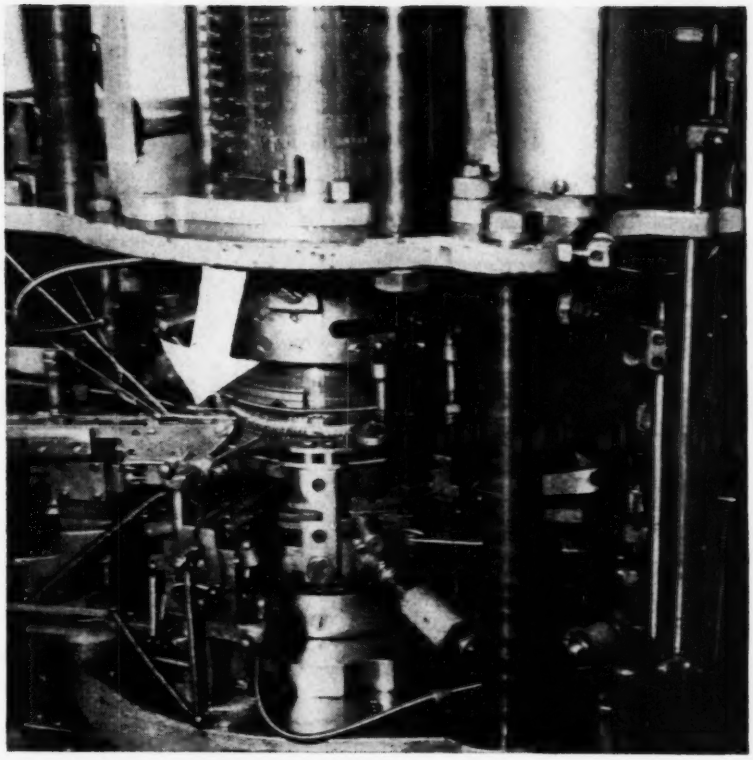
Setting the left finger as close to the latch guard and as low as possible helps to get clear plaiting on patterns.

Closer Adjustment Made With Electric Needle Protector

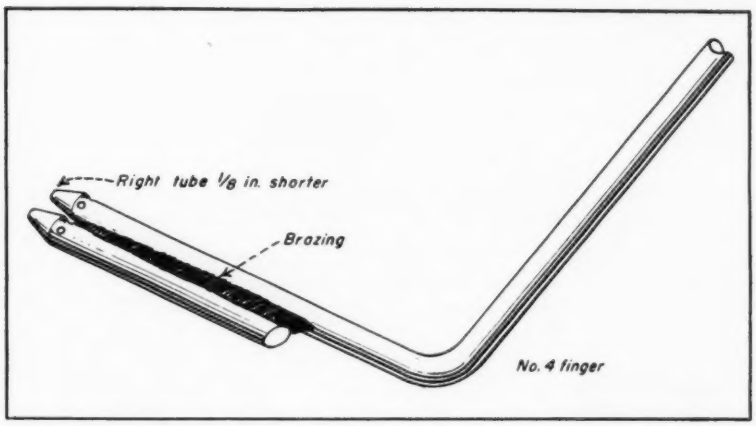
Modifying the two-feed stop motion has cleaned the machine and helped us reduce some faults. We fixed a lever to the upright post of the regular needle protector. The end of this lever is prevented from touching a contact strip by a light tension spring screwed to the dropper bracket.

The contact strip is screwed to a plastic block on the machine frame, and a covered wire connects the brass contact strip to the regular electric stop-motion circuit. When the needle protector point is moved out of position, the lever touches the contact and stops the machine.

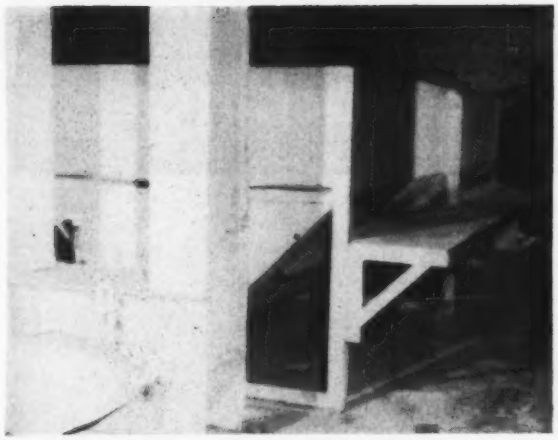
A closer adjustment can be made with this modification. We've also switched over to the clutch-type brake on the two-feed attachment and find it a big help in preventing the attachment getting out of time.



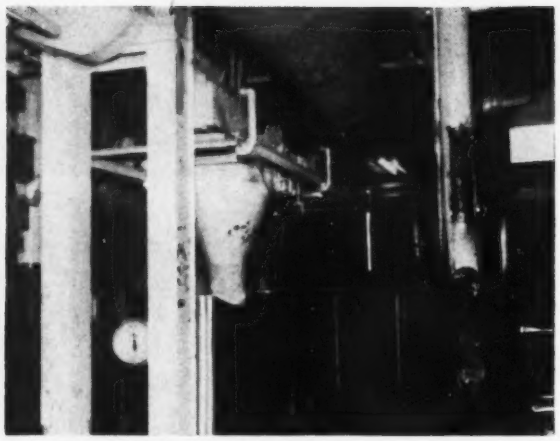
DOUBLE FINGER on back feed allows plaiting to be done on both feeds. Electric needle protector is easier to set than the old-type protector.



PLAITING FINGER is made by cutting a feed tube from a regular finger and brazing it to the side of the regular No. 4 finger.

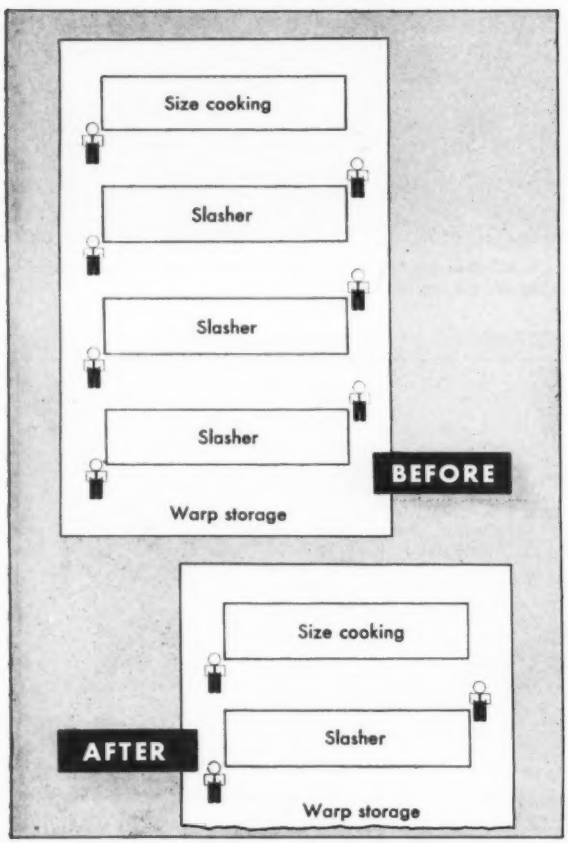


THE STORAGE BIN located in the basement holds a two-day supply of starch. After the bin is filled manually, the endless conveyor belt lifts the starch to the slasher room on the floor above.

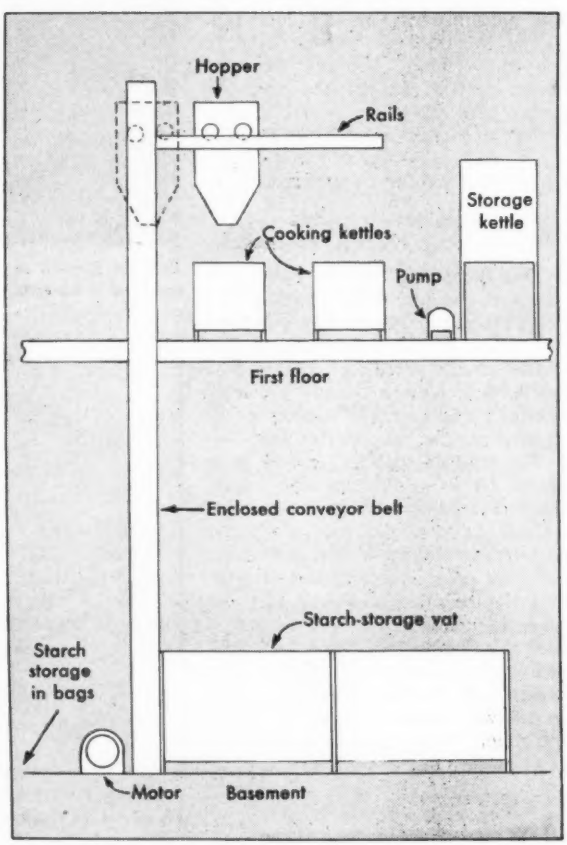


THE CONVEYOR BELT fills the 500-lb.-capacity hopper with enough starch to service three sizing mixtures without refilling. Two stainless-steel cooking kettles handle all sizing materials.

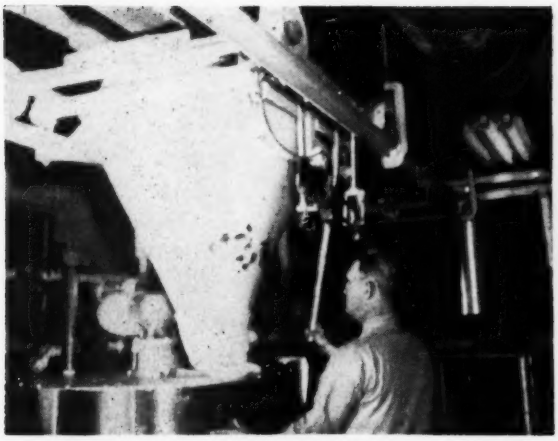
New SLASHING EQUIPMENT



ONE NEW SLASHER operated by two men replaces three old ones operated by six men. One man is still assigned to size cooking. There's a gain of four men's wages with the new slasher.



THE STARCH is taken from the storage vat by spoons on the vertical endless conveyor belt and raised to the hopper. From there, it is rolled directly over either of two cooking kettles.



SIZE MIXING is almost fully automatic. John D. Bishop shifts a lever to start the flow of starch from the hopper to the cooking kettle. The scale stops the flow of starch at 140 lbs.

THE BIG JOB for Slasher Tender Grover Sexton and Back Man Dan Godfrey is inspecting warp ends. Fully automatic controls keep slashing quality and production high.

Raises Weave-Room Production 2%

Management men at Gold-Tex Fabrics Corp., Rock Hill, S. C., threw out three old slashers and started from scratch to completely re-equip their slasher room. New equipment features—

- **Automatic handling of starch**
- **Size mixing with push buttons**
- **One new slasher instead of three old ones**
- **Instrument controls for the whole system**

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

WEAVE-ROOM PRODUCTION at Gold-Tex Fabrics Corp., Rock Hill, S. C., was raised 2% as a direct result of the installation of a new slasher and other slashing equipment. And, in addition, the quality of the cloth was improved. The mill weaves all denim fabrics.

One Modern Slasher Replaced Three Old Ones

Gold-Tex Plant Engineer L. M. Allison—he's general manager now—designed the new slashing-equipment layout. He says there were three old two-cylinder cotton slashers, and each of them was operated by two men. All three slashers had to be operated 140 hrs. per week to keep 337 looms operating.

One new slasher is operated only 120 hrs. per week by only two men. The new slasher does the work of three old ones because it is operated at 80 to 100 yds. per min.; the old ones were operated at 30 to 35 yds. per min. In addition, there are fewer stoppages with the new slasher because it is more efficient.

The new machine is a Johnson nine-cylinder slasher equipped with modern size-mixing equipment and instruments.

Size mixing begins in the basement directly underneath two cooking kettles located next to the slasher on the first floor of the building.

A metal bin, rectangular at the top and V-shaped at the bottom, is located in the basement floor for starch storage. The bin holds a two-day supply of starch.

Thin-boiling starch in 100-lb. paper bags is used. The starch is stored on pallets near the bin, and the bin is replenished once a day by a man from the maintenance department.

An endless conveyor belt with spoons spaced a foot apart is enclosed in a duct of welded-steel construction and is attached to the bottom of one end of the storage bin. A motor located next to the bin drives the belt. The spoons pick up starch from the storage bin and take it to a hopper over the cooking kettles in the slasher room.

The Starch-Handling System Eliminates Manual Labor

The starch in the storage bin cannot become stale, because the spoons on the endless belt agitate it continuously and keep fresh starch going to the slasher room. The bin is covered with two lightweight lids to protect the starch from flying lint, dirt, and other foreign matter.

The hopper in the slasher room is mounted on a track extending from below an opening in the arch of the conveyor-belt duct to positions over two cooking kettles.

The capacity of the hopper is 500 lbs. A scale attached to the hopper weighs up to 500 lbs. of starch in any increment and automatically dumps the selected weight into either of the two cooking kettles.

The two cooking kettles, storage kettle, pump, and all piping and fittings are made of stainless steel. The

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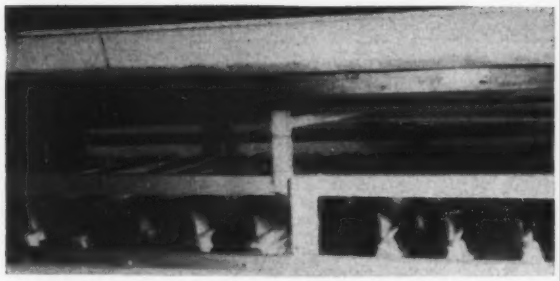
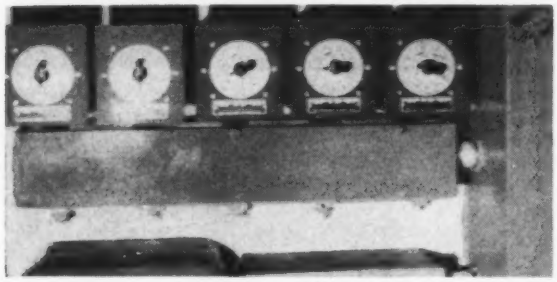
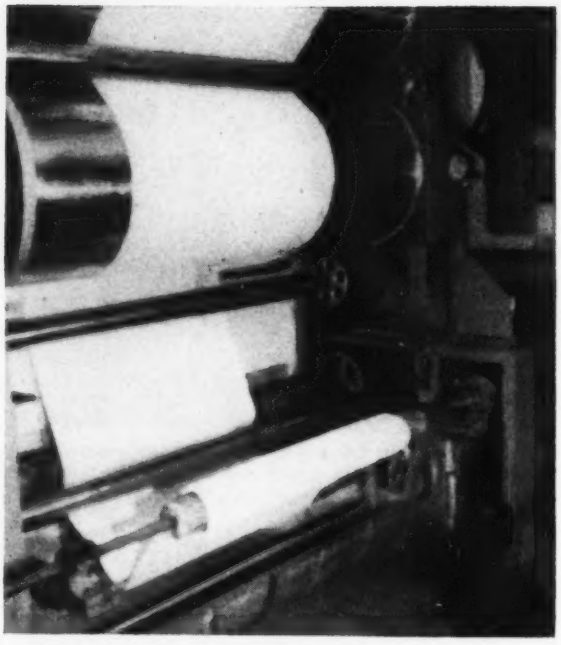


HEATER ELEMENTS are rotated 90° when the fabric stops.



FIVE DIALS control the output of the five banks in which the 36 heating elements are arranged.



COOLING CANS lower the temperature of the cloth after the curing operation.

How Northern Dyeing Corp. CURES RESINS in Six Seconds

► Far-infrared heat at 1,000° F., combined with predrying on cans and an air dryer, makes possible a quick resin cure without surface migration.

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

Northern Dyeing Corp., Washington, N. J., has been using a 6-sec. curing time for melamine formaldehyde resins since the beginning of the year. With far-infrared radiant heaters manufactured by Edwin L. Weigand Co., Pittsburgh, Pa., the curing unit produces a temperature of 1,000° F. that allows the fabric to be run 36 to 50 yds. per min.

The unit at Northern includes 36 radiant heaters arranged in top and bottom rows of 18 each. The heaters are grouped in five banks, individually controlled, as follows:

Controls are automatic, a dial being set to obtain any output up to the full heater rating.

When the cloth movement is stopped, the heaters, remaining energized, rotate 90° and direct the radiation away from the fabric.

Northern Dyeing Corp., which specializes in finishing and dyeing failles and bengalines, has recently developed Nortex, a wrinkle-resistant, shrink-resistant, water-repellent finish for bengaline. The fabrics carrying the Nortex label usually have a viscose warp and cotton filling and are processed with far-infrared heaters.

Agents used for the Nortex finish are melamine formaldehyde and silicone. After being padded with the agents, the fabric is predryed on cans at 250° F. and through an air dryer at 200 to 250° F. The cloth is run through the radiant-heating unit over rolls at the entering and delivery ends and is then passed over water-cooled cans. The resulting finish is soft and shows no evidence of resin migration.

The unit, costing about $10,000, has been easily maintained and has required only the usual oiling and greasing. Two men operate the entire range.

Far-Infrared Heat

Far-infrared radiant heat is composed of long-wave-length radiation that is far from the visible portion of the spectrum. While the shorter wave lengths close to visible light are somewhat reflected by light colors and absorbed by dark shades, the far-infrared type of radiation is absorbed uniformly by all shades. Long wave length also eliminates the troublesome glare present in near-infrared radiation.

Georgia Carders Discuss Problems From BLENDING to DRAWING

Over 200 members of the Textile Operating Executives of Georgia gathered at Georgia Tech for their spring meeting to hear the facts on:

BLENDING	Mixes made from 12 to 78 bales
OPENING	SRRL openers remove more trash
PICKING	Universal grid bars help make better laps
CARDING	High lickerin speeds show conflicting results
DRAWING	Compression rolls increase can content 30%

QUESTION: Give your method of blending and handling mixes, including waste mixes.

Half of the mills taking part in the discussion do not run waste mixes. The other half uses various methods of blending. Here are some of them:

1. The waste mixes are preblended according to weights, and then they are baled in 500-lb. bales. These bales are opened behind the feeders in lines of four bales behind each No. 7 feeder. These waste bales are fed in equal amounts to give additional blending.

2. Waste mixes, consisting of 100% waste or a major portion of waste, are opened and blended in a unit separate from the opener. This unit consists of four bale breakers. Each breaker delivers to a conveyor apron and a condenser that carries the stock to seven blending hoppers. These hoppers deliver the stock to a conveyor apron.

A condenser at the end of the conveyor apron delivers the stock to a bale press. The bales are kept in storage, and 24 bales are placed at the picker.

3. An eight-bale mix from several lots of $\frac{11}{16}$-in. Egyptian cotton is used with 6% reworkable waste in one mix. Small amounts are fed to the bale breaker from each bale to get a suitable blend.

4. Grades of reworkable waste are kept separate and mixed with the same grade of cotton as the type being run. About 3% waste is used for each mix.

5. Twelve bales of waste, consisting of 50% card strips and 50% card fly, are opened at one time. The opening tender blends the stock by feeding equal amounts of waste by hand to four automatic feeders.

Regular Mixes Have Wide Range

Although mixes varied from 12 to 78 bales, 24 bales is the number preferred by most mills. These various methods of blending regular mixes were reported:

1. Opening 96 bales at one time and feeding from 24 bales, 1 to $1\frac{1}{2}$ ins. of stock is taken from each of the 24 bales and placed on two feed aprons. Each bale is tested for Micronaire fineness, and the results are recorded on the receiving sheet and the bale tag. A Micronaire reading is established for each cotton mix, and the average of each 24-bale lot must fall within the tolerance of 0.20.

2. One regular mix consists of 23 bales of $\frac{7}{8}$-in. cotton and 22 bales of $\frac{13}{16}$-in. cotton, with an average Micronaire reading of 4.5. A 45-bale mix is opened and left in the opener room for 8 hrs. It is then fed to a bale breaker, horizontal cleaner, vertical opener, Centrif-Air cleaner, No. 11 dust extractor, and No. 12 lattice opener.

Three lines of this equipment feed the cotton to 10 blending hoppers. Two blending hoppers are reserved for lap waste and white reworkable waste. The hoppers feed the cotton to a feed table, which carries it to a vertical Superior cleaner. From the cleaner it is drawn into a gyrator in the picker room and distributed to six single-process pickers.

3. A mix of 70 bales is used in one opener room and a mix of 56 bales in another. The mixes are 50% 1-in. Middling and 50% 1-in. SLM-bright. Each bale is tested for Micronaire fineness and placed in four groups. These groups are: (1) below 3.0, (2) 3.0 to 4.0, (3) 4.0 to 5.0, and (4) above 5.0. Bales belonging to these groups are placed in the mix to maintain an average fineness of 4.2.

4. A total of 78 bales is opened. One-third of the cotton is 1-in. SLM-bright, 39.74% is 1-in. LM-bright, and 26.93% is 1-in. LM-bright irrigated. Six bales are used for a mix for each of 13 hoppers.

SRRL Openers Remove Heavy Trash

One mill has been using SRRL openers in the cleaning line for more than two years and has found them to be excellent machines. While running LM cotton, the SRRL opener takes out a good part of the heavy trash. This mill handles 2,000 lbs. hourly through the machines.

Another mill processes 1,400 to 1,700 lbs. per hr., but no change in cleanliness, neps, or yarn strength has been noticed. The opening line previous to the SRRL installation was: (1) blender, (2) vertical opener, (3) No. 11 condenser, (4) No. 12 lattice opener, (5) No. 11 condenser, (6) Superior cleaner, (7) Centrif-Air machine.

Since the SRRL installation, the setup is: (1) blender, (2) condenser, (3) SRRL cleaner, (4) No. 11 condenser, (5) No. 12 lattice opener, (6) No. 11 condenser, (7) Superior cleaner, (8) Centrif-Air machine.

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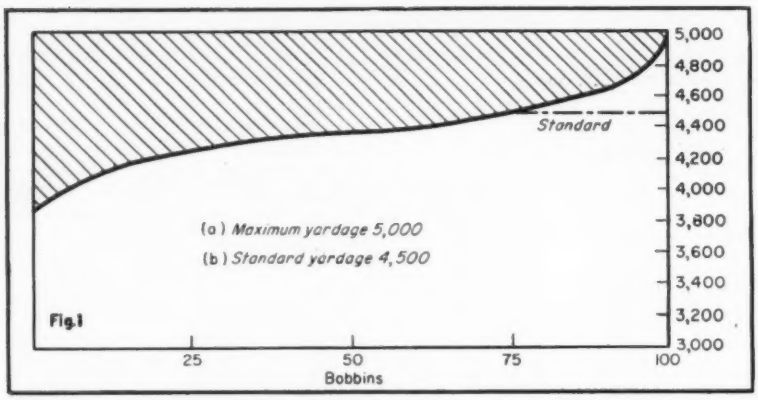
How To Increase SPOOLER



PRODUCTION LOSS caused by running irregular bobbins is shown by the shaded area. This chart is based on full bobbins supplied to the spooler.

In many mills there is plenty of room for increasing efficiency on automatic spoolers. To do so—

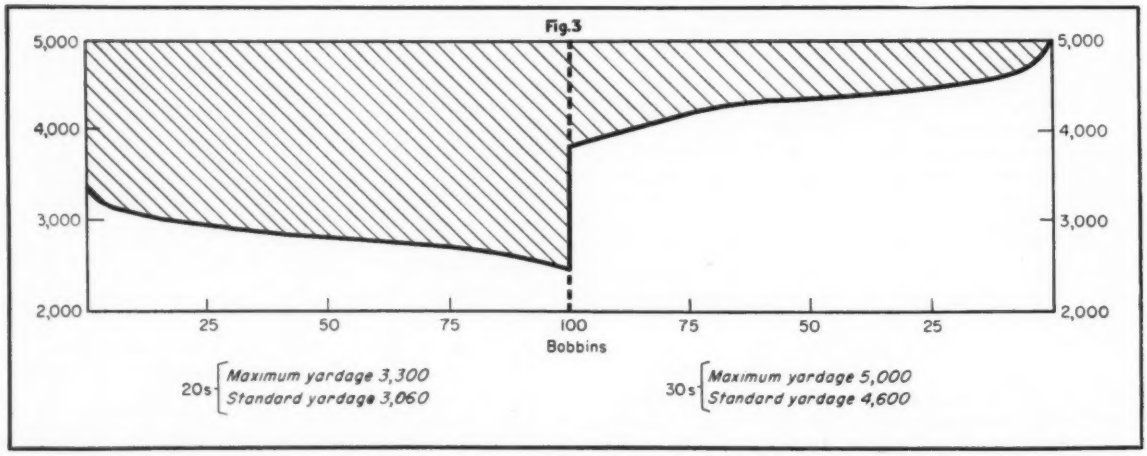
- Run uniform yardages
- Keep tailings to a minimum
- Don't run widely different yarn numbers at the same time
- Keep machine in good adjustment

By N. H. POMFRET

Fig. 2

20% Tails Supplied on Second Round					5% Tails Supplied on Second Round				
Round	Full bobbins	Half bobbins	Quarter bobbins	One-eighth bobbins	Round	Full bobbins	Half bobbins	Quarter bobbins	One-eighth bobbins
1	360	—	—	—	1	360	—	—	—
2	288	72	—	—	2	342	18	—	—
3	295.2	57.6	7.2	—	3	342.45	17.1	0.45	—
4	294.8	59.04	5.76	0.36	4	342.44	17.1	0.42	0.005
5	295.7	58.96	5.04	0.288	5	342.45	17.1	0.42	0.005

DECREASE IN TAILINGS run by the spooler increases production as a result of more full bobbins being supplied to the spooler. To show what happens when tailings are decreased, it was assumed that tailings would be made at the even lengths.



IF TWO YARN NUMBERS ARE RUN, production is lost if the bobbins are of the same weight. This chart shows the production lost (shaded area) when 30s and 20s yarn are run at the same time on bobbins of the same size.

EFFICIENCY

THE SPOOLING DEPARTMENT, like every other department in a mill, has the problem of keeping up production and quality. The inherent qualities of the yarn cannot be improved in spooling, with the exception of possibly some improvements in cleanliness, but the yarn's value per pound can be increased. And much can be done to increase production. An automatic spooler often has a low efficiency, but it can put out a lot of yarn.

Here are four guides to increasing the production of the spooler:

1. Keep the length of yarn on bobbins as uniform as possible.
2. Keep down yarn breakage by paying close attention to spinning and the formation of the bobbin.
3. Spool only one yarn number at a time if possible.
4. Keep the spooler well adjusted and in good running condition.

If the productive efficiency of the spooler is calculated by the formula: Length of yarn wound in period ÷ [number of units wound in period × winding speed × total time], the efficiency figures out in the neighborhood of 50%. So there is plenty of room for increasing spooling efficiency and production.

The time it takes a knotter to make a complete circuit of the machine is usually computed from the standard yardage of the bobbin from the spinning frame. An allowance of 10 secs. or more is made to allow for bobbins with more than standard yardage. If this extra time were not added as a margin of safety, the traveler would be continually catching up to the larger bobbins and stopping automatically. Then the operator would have extra work, and more production would be lost.

Bobbins that have less than the maximum yardage cause lost production. This production loss is proportional to the average yardage less than the maximum.

The production loss caused by bobbins of different yardages of yarn is shown in Fig. 1. Yardage varies from below 4,000 to the maximum of 5,000 yds., and the shaded area represents the production loss. The necessity of a margin of safety is demonstrated by this chart.

To find out how much production is lost at different yardages, take 50 bobbins, one from each doff, and calculate the average yardage from the weight and size. Compare the average yardage with the maximum yardage, which is the time the traveler takes to complete one round multiplied by the winding speed. The percentage of lost production is: [100 × (minutes per round × winding speed) — average yardage] ÷ [minutes per round × winding speed].

Fig. 4 **Timing List (No. 1 Machine)**

Index Number	Action
21	Down-take arm starts upward stroke
24	Rise roll reaches highest position
156	Slack tube arrives at extreme left
216	Cheese suction tube starts down stroke
216	Rise roll starts downward movement
231	Slack tube starts to move from left to right
232	Suction tube starts to close
246	Suction tube reaches fully closed position
252	Suction-tube shear starts to open Rise roll reaches bottom position
262	Down-take arm arrives at top of stroke
266	Down-take arm starts downward stroke
267	Suction-tube shear reaches wide-open position
283	Cheese suction tube starts upward stroke
286	Slack tube arrives at extreme right
313	Cheese suction tube arrives at top of stroke
318	Rise roll starts to move upward
352	Down-take arm arrives at bottom of stroke
358	Slack tube starts to move from right to left

NEW TIMING CHART should be established for each machine after it has been running long enough for normal wear to change the settings. No two machines stay exactly the same. This chart is for 360-unit spooler.

Fig. 5

Shift 1					
Yarn	Tridents	Cheeses	Total	Creeled	Start
30	81	1,458	1,958	1,696	262
Shift 2					
Yarn	Tridents	Cheeses	Total	Creeled	Start
30	84	1,512	1,774	1,696	78

Warper production 6,570

STOCK AND PRODUCTION RECORD helps to balance production of spooler and warper. This sample record sheet shows that the first shift started with 500 cheeses, produced 1,458 cheeses (81 tridents), creeled 1,696 cheeses, and left a stock of 262 cheeses for the second shift. Warper production is listed once a day.

Keep Yarn Tails to a Minimum

Fig. 1 is based on full bobbins being supplied to the spooler. In practice, bobbins that do not run out the first time must be returned, and there is sometimes as little as a few hundred yards left on a bobbin. The number of these bobbins returned depends on the quality of the yarn, the formation of the bobbins, and the cleaning required.

Fig. 2 shows what happens when tailings are increased or decreased. All 360 bobbins on a 360-unit spooler are full the first round. For the sake of simplicity, it was assumed that full bobbins that don't run out are left at half length, half-length bobbins are left at quarter length, and quarter-length bobbins are left at one-eighth length; and number of tailings was calculated in proportion to the length. After a few rounds, the number of full bobbins supplied to the spooler tapers off to the level at which it will stay. The increase in production that results from a decrease in the number of tailings is apparent.

Uniform Yardages Up Production

The importance of uniform yard-

CONTINUED ON PAGE 202

PARTS CLEANING Speeds This

The production departments, supply room, and maintenance department work together at Inman Mills, Inman, S. C., to keep production machines in good mechanical condition.

Frequent inspection of parts that wear

INSPECTION. A machine part is removed from a machine in the first step in repairing worn parts. In this case, L. G. Wildes, card grinder, removes the carriage of an Abington combination doffer and cylinder stripper as part of a routine card inspection.

A speedy parts-cleaning operation

PARTS CLEANING is one of the steps that make Inman Mills' system efficient and economical. Claude High, head supply man, lowers a drum of reusable parts into the vat of cleaning solution. He will turn on the steam and return in 2 hrs. to remove the parts.

By LEWIS THOMPSON
Inman Mills

REPAIRING MACHINE parts so that they are clean and attractive is an important part in the work of our maintenance department. Section men throughout the mill are supplied with repaired machine parts that look good and fit right.

Many machine parts are repaired in the machine shop and reused many times.

We also do a lot of style changing that requires changing auxiliary cams, treadles, and all kinds of gears. We store the used parts in our supply room and use them again.

To make the parts attractive and easy to handle, we clean them in a special cleaning vat we have arranged near the supply room.

Our Cleaning System Sparks the Entire Program

The vat is made from a discarded 250-gal. slasher kettle. The kettle is equipped with a water line, a steam line, and a drain valve that empties into a storm sewer.

A water and trisodium phosphate solution is mixed in the kettle. About 150 gals. of water is mixed with 8 lbs. of trisodium phosphate.

Used machine parts to be repaired or those to be stored for future use are separated from parts to be discarded by supply-room employees and placed in a 35-gal. open-end oil drum.

The drum has a swinging handle welded to the sides and has several ¾-in. holes bored over its surface.

A crane with a track and a roller carriage is screwed to the wall of the mill over a platform just outside the supply room. A ½-ton electric hoist mounted on the crane picks up the drum full of reusable machine parts, swings the drum over the slasher kettle, and lowers it into the trisodium phosphate solution.

Then steam is turned into the tank to agitate the solution. The holes in the drum let the solution reach all surfaces of the machine parts. A 2-hr. period is required to clean the parts. Four drums of parts can be cleaned in one kettle of solution before it is changed.

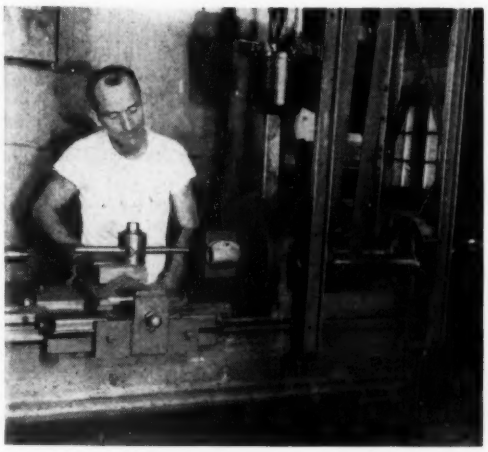
Parts removed from the vat are thoroughly cleaned and do not require any further cleaning, rinsing, or drying. They may also be handled safely.

Cleaned parts are returned to the supply room for storage or taken to the welding or machine shop for repairs. Usually, if a part is painted originally, we repaint it again to make it look good.

Four-Step Machine-Maintenance Program

There is no skimping on the use of new machine parts when they are needed, but the maintenance department rebuilds many parts. These steps make the program successful–

Special shop methods for cheap, accurate repairs



REPAIRING. The machine shop is equipped with special jigs to make numerous repairs on all types of parts. Here E. E. Walker, machinist, is repairing the carriage from an Abington stripper. A gauge is used to measure each operation before a full cut is taken.

A system of returning a used part for each new one

REPLACEMENT. A worn part is returned to the supply room for each new or repaired part issued. As a final step in the repair-parts cycle, Loomfixer Albert Martin gives Ralph Cogdill, supply attendant, a worn filling-motion shipper for a repaired one.

We Check Costs Before Making Extensive Repairs

In repairing parts it's often hard to decide just what parts can be economically salvaged and what parts should be thrown away.

Take, for instance, a bobbin-disk stud for a Draper loom. A new stud costs $0.80, and our shop cost for repairing them is $1.00 each. We have stopped repairing these and other studs.

Another example where the cost of repairs is too great is repairing the temple top where it becomes worn on the inside surface from contact with the thread cutter. It costs $0.85 to repair this part; a new top costs only $0.90.

On the other side of the picture, many machine parts can be repaired with great savings. New treadles for our looms cost $1.29. We repair them for $0.45. The repaired treadle gives as good results as a new one.

Crankshafts and camshafts are both repaired in the shop. New crankshafts cost $7.50; we repair them for $3.25. We repair camshafts that cost $5.82 originally for only $1.50.

Other machine parts that were thrown away until recently are now being repaired. The same temple top (cost $0.90) that cannot be economically repaired on the inside can be repaired for only $0.25 at the surface that stops the thread cutter in its forward movement.

It is profitable to repair loom beams. New beams cost between $8 and $9. We repair a beam barrel for a 40- or 50-in. loom for $2.

We are now repairing the carriage for the combination doffer and stripper on Abington card strippers. We believe this part is generally discarded by most mills when it becomes worn.

Worn carriages are often neglected with the result that the nozzle on the stripper cannot be set close enough (our tolerance is ⅛-in. clearance) to do a good stripping job without danger of damaging the clothing on the doffer and on the cylinder.

Another danger connected with operating the stripper with a worn carriage is that the traverse screw (a $10.60 part) is often stripped of teeth.

To repair the carriages, the six boss-like bearing surfaces on the inside of the worn carriages are built up with welding and then cut down by being mounted in the chuck of a lathe in a special jig made from a piece of angle iron.

New carriages cost $2.49. We repair them for $0.25.

Other machine parts throughout the mill are repaired in the same manner after it has been established that it is economical to repair them.

ONE MAN weighs enough dye to service three shifts. A Shadograph scale is used, and the measured dyes are bundled in paper.

BATTERY-OPERATED TRUCK transports the gray beam, ready for entrance into the dyeing machine, to the dyehouse.

New BEAM DYEHOUSE Does Seven Days' Work in Five

Avondale's newest dyehouse turns out 150,000 lbs. of beam-dyed yarn a week. Features include—

- **Automatically controlled dyeing cycle**
- **Efficient dye-inventory control**
- **Over 700 different colors run**

By MICHAEL LONDON
Assistant Editor, TEXTILE WORLD

SINCE AVONDALE MILLS, Alexander City, Ala., installed a new dyehouse, it is dyeing as much yarn in five days as it used to dye in seven days under the old setup. Less labor is used and quality has been improved.

Yarn is dyed on beams containing from 6,000 to 14,500 yds. of yarn, and the average production of the plant is 150,000 lbs. of yarn dyed weekly. Vat colors, naphthols, sulfurs, developed dyes, direct dyes, and coprantenes comprise the dyes employed. In current production are 13s, 17s, and 20s cotton yarn.

Dyeing equipment includes two two-kier and three four-kier Smith-Drum beam-dyeing machines. Directly beneath the kiers, on the floor below, are located the pumps that supply the kiers. An elevator runs between these floors and down to an area below the pump room. Dyes and chemicals are stored in the lower room.

Beams of gray yarn are stored in an area serviced by electric hoists. The beams are brought to the dyehouse proper by battery-operated trucks. At the dyeing machine, another electric hoist takes over, and the beam is loaded into the machine.

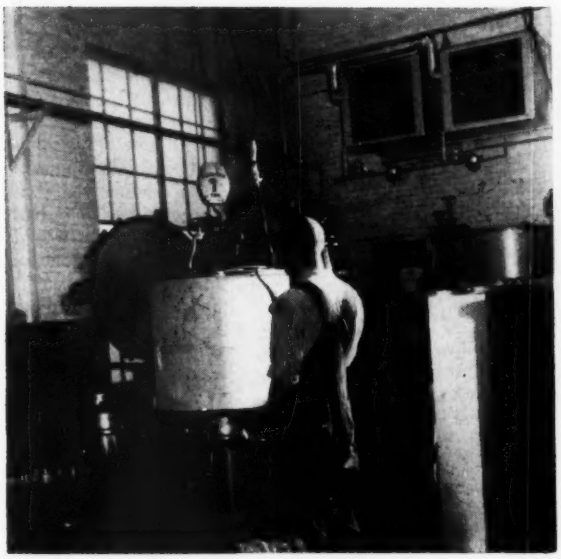
Brine Is Metered

A brine line is connected to each kier, and a brine meter keeps a positive check on the volume of brine used. Each unit is equipped with a bypass valve. When large beams are dyed, the valve is closed; this causes the pressure to rise and produces better penetration of the dye into the beam. An automatic timing device controls the dyeing cycle.

Any kiers that remain unusued during the dyeing operation are equipped with a dummy, a hollow steel cylinder, that produces the same effect as a beam of yarn in taking up dyestuff. In this way the dyeing is kept even.

A foreman, an assistant foreman, a dye weigher, and five dye operators per shift comprise the dyehouse personnel. The dye weigher produces enough measured batches of dye to service all three shifts. The dye is weighed on an easy-to-read, accurate Shadograph scale and bundled in paper for subsequent use by the dye operators. Other chemicals used in the operation are the responsibility of the individual dye operators.

Each dye operator is given a combination standard instruction sheet and blank form suited to the particular dye he is using. As he does his work and fills in the blank, a



ELECTRIC HOIST conveys the gray beam into the dyeing machine. The automatic time-control for the dye cycle is in the background.

DYED BEAM is removed from the machine by the electric hoist. Notice the dummy in the unused kier.

permanent record of the dye operation is obtained. Yarn is also bleached in the machine, and a suitable form is given to the operator handling the process.

Between 700 and 800 colors are used at the Alexander City plant. To control the inventory of dyes and chemicals, Avondale determined the exact amount of materials used in scheduled operations. These amounts are added to the amounts of chemicals used in redyeing operations. The results, which represent the chemicals used, are checked against the amounts still on hand. This check shows up any loss or gain of materials and is a guide in reordering chemicals.

Operator's Instruction Sheet

Developed Dyes

1. Do not wet out beams. Start machine circulating cold, with panel set on automatic 5-min. changes.

2. Boil dye thoroughly in not less than one-half mixing tank of water.

Add dye one-half at a time, 5-5.

Heat to 190° F. When temperature reaches 190° F., reset panel and time to run 20 mins., 5-5-5-5.

3. Make up brine in mixing tank, and dilute to about one-half tankful by adding fresh water.

Feed this brine solution one-fourth at a time, 5-5-5-5; then run another 5-5-5-5 at 190° F. for 20 mins.

Drain and blow thoroughly.

4. Refill, reset panel, and give a 5-5-5 running wash with water from the hard-water line.

Close overflow drain valve, and shut off water supply. Add nitrite to expansion tank. Then slowly pour in acid. Let run 5-5-5.

Do not drain, but reset panel, and give another 5-5-5 running wash with hard water.

5. Stop wash as before without draining machine. Then add developer (dissolved Beta Naphthol or developer Z), and run 5-5-5-5 cold.

Do not drain but give another 5-5-5 cold running wash with hard water.

6. Stop off running wash, and heat to 190° F. Run 5-5 at 190° F.

Drain and blow.

Direct Dyes

1. Do not wet out beams. Start machine circulating cold, with panel set on automatic 5-min. changes.

2. Boil dye thoroughly in mixing tank half-full of water. Add dye one-half at a time, 5-5 cold.

Heat to 190° F., reset panel and time to run 20 mins., 5-5-5-5.

3. Make up brine in mixing tank, and dilute to about one-half tankful by adding fresh water.

Feed brine solution one-fourth at a time, 5-5-5-5; then run another 5-5 at 190° F.

4. Drain, raise lid, and blow.

Bleach

1. Dissolve caustic in a bucket of water by stirring. Add caustic and silicate while heating up machine. When machine is hot (190° F.), add peroxide very carefully.

Run all beams in the bleach bath a total of 1 hr. at 190° F. to obtain a good white bleach. Let valve change every 5 mins.

2. After bleaching, drain machine, refill, and give a 5-5 wash at 190° F. with ½ lb. Texol per beam.

3. Drain and blow.

Georgia Mill Men Explore SPINNING PROBLEMS

Subjects discussed by spinners at the spring meeting of the Textile Operating Executives of Georgia included—

- **Synthetic top-roll covers**
- **Ball-bearing front rolls**
- **Pneumafil installations**
- **Revolving clearers**
- **Spinning-room cleaning**
- **Ball-bearing spindles**

Synthetic Top Rolls Preferred

Every mill but one that reported on the use of top-roll covers uses synthetic covers. One mill uses cork covers. Synthetic covers were chosen because of their longer life and lower end breakage.

The buffing cycle of top rolls ranges from once every 12 shifts to once every 13 months. A six- to eight-month cycle is preferred by 10 mills, and 4 mills have no regular buffing cycle. One mill checks the rolls daily, and another mill sends rolls to the shop to be rebuffed when they are found to be faulty.

Pneumatic roll pickers are generally used every 24 hrs. to clean front rolls, and some mills have used carbon tetrachloride to remove oil. One mill cleans the rolls every four months with a mixture of three parts mineral spirits and one part paint thinner.

Good results are obtained on 7s to 20s yarn with a draft of 9.33 to 16 with Bakelite-covered pencil rolls. The weight of the roll, including the cover, is 5.57 oz. Some 3-oz. pencil rolls were chrome plated, but no difference in quality has been noted on 25s warp yarn with a draft of 16.

Oilless Rolls Find Favor

Ten mills were enthusiastic about oilless spinning rolls. Nylon rolls have been running for 20 months with no trouble, but the wear on Rulon rolls was making the venture expensive. One mill using nylon rolls was bothered by cots getting loose.

Nylon finger bars and saddles have been running on common top rolls for two years with very slight wear. Tests show that quality is slightly better. Some mills have found them to run hot and oil them weekly, monthly, or every three months; and one mill greases the nylon saddle with white petroleum monthly.

Ball-bearing front rolls are not proving too successful in most mills. These mills think they should be improved. One mill has, however, been running needle-bearing middle rolls on Shaw frames for six years with good results; and another mill is doing a good job with 145-rpm. front rolls on Shaw frames.

Pneumafil Increases Workloads

Ten mills reported experience with Pneumafil. Of these 10, the experience of four was limited either by the length of time they have had the installations or by the small number of frames equipped with Pneumafil. The other six mills reported significant improvements.

On the critical question of spinner-workload increases to make the installations profitable, answers from the six mills were:

Mill J: Depending on the yarn numbers spun and the product turned out, it takes "between 5 and 10 years" for the equipment to pay for itself.

Mill K: ". . . jobloads considerably increased."

Mill L: "Increased jobloads about 25%."

Mill V: "Jobloads increased 12½%."

Mill X: "We were able to pay for this equipment in less than two years."

Mill Y: "Added four more sides to spinner on synthetics."

One of the mills whose installation was too small to net an advantage in workload increase reported:

Four frames equipped with Pneumafil have been in operation about seven years.

There is a decrease in ends down after scrubbing the steel rolls, but ends down increase again as the flutes in the front rolls fill up. There has been no apparent improvement in yarn cleanliness and quality, but it is believed that there would be less dust and lint in the air and quality would be improved if all frames were equipped with Pneumafil.

Waste will increase if it is not carefully controlled. Short tests have shown up to 75% more waste. It is more difficult to see an end down, and more careful inspection is necessary.

Keeping oil off the steel rolls during oiling results in less loading of the flutes. Several suction tubes have been tried, but none have kept the flutes from loading.

There is no increase in workloads in this mill. Lap-stick cleaning is replaced by maintenance of the Pneumafil tubes. The flutes get out of alignment and pull out of the supporting brackets when the chokes are removed from the steel rolls. Steel-roll laps seem to occur about as frequently as on other frames.

There is an increase in power consumption, but it is expected that the return on the investment of installing Pneumafil is about 10%.

Another mill has all its spinning frames equipped with Pneumafil and finds that ends down remain about the same but quality seems to be improved. They still get plenty of clearer waste from the top rolls, and the steel-roll flutes load up except for the part over the tube orifice.

Another mill has proved that ends down on Pneumafil-equipped frames are less than on conventional frames. The yarn quality in this mill is improved because flying lint is decreased and there are fewer slubs and splicings.

The scavenger waste has increased, but this increase is partly due to the increased workloads and the lint that is taken in through the ducts.

Revolving Clearers Are Favored

Of 29 mills reporting on spinning clearers, 21 use revolving clearers on their front rolls. These clearers tend to eliminate eyebrowing that is customary with flat clearers. The revolving clearers are harder to clean, but they do not have to be cleaned so often.

One mill has removed all the middle- and back-roll flat clearers except four on each spinning-frame side. These four clearers are moved up and down on the frame so that the middle

and back rolls are cleaned every 120 hrs. The overhead cleaners are now able to blow through the rolls and aprons better than when the clearers were left on all the time.

Most of the 17 mills that use underclearers on the back steel roll find that the underclearer prevents some laps on the roll and keeps the roll cleaner. The clearers pick up stray roving and waste and help to keep the apron clean and add tension to the apron. The big disadvantage of the underclearer is that it is difficult to clean and, if not kept clean, puts slubs in the yarn. The advantages gained seem to outweigh the disadvantages.

Blower Makes Slubs

Spinning-room cleaning came in for much discussion. One unsolved problem is preventing slubs made by overhead blowers. Most mills try to remove the slubs during winding. Here's what some mills are doing about preventing slubs in the spinning room:

1. The blower is set so that all lint is blown off each time the blower goes around. The floors are kept as free from lint as possible.
2. Backboards, levers, screws, stirrups, and roll bars are cleaned every 240 hrs. on 32s and 40s yarn.
3. The blowers are directed to keep the creels clean and to prevent air hitting the floor.
4. The roving creel and top creel are cleaned every 80 hrs. and the run-out guides every 2 hrs.

While some mills are installing ceiling cleaners to eliminate overhead cleaning, all mills have a cleaning schedule each shift, day, or week. After blowing down the ceiling, windows, and walls, the spinners pick all lint from the frames before they are started up.

Underframe cleaners are not regular equipment yet, but many mills think that the cleaners will solve some problems and will eliminate underframe cleaning by hand. While one mill cleans under the frame only once a year, some mills do this job every day. Other mills clean under frames weekly or monthly.

Ball-Bearing Spindles Reduce Oiling Periods

Mills were unanimously satisfied with ball-bearing spindles. SKF large-package spindles have been running in one mill at 7,500 rpm. for two years with no trouble. They are oiled every six months.

New Era oil-cushion-type spindles, running at 10,200 rpm., have given 10 to 15% fewer ends down in one mill; and another mill spins 110s and 52s at an average speed of 9,250 rpm. The spindles run about four years without oiling, and they seldom get out of alignment. They must be kept clean, or they cause high bobbins and trouble during winding.

While the New Era rubber-mounted spindle is harder to plumb than conventional spindles and learners sometimes pull the spindle out of plumb, tape life has been increased, the work is cleaner, and no oil gets on the yarn.

A six-month schedule of flushing and refilling has been adopted by one mill using Marquette ball-bearing spindles. It takes about 1¾ manhours to flush and refill a 208-spindle frame. This schedule saves labor because the previous spindles were oiled every 120 hrs.

Bunch-Building Ideas Vary

These were some of the replies to a question on an ideal bunch on filling:

1. The width of the bunch should be ½ in. and the length 6 yds. The yarn is 13s, and the cloth width 31 ins.
2. Bunches on fine yarns should be ½ in. wide and from 7 to 9 yds. long, not higher than 1 in. up on the quill. Coarse filling can be ¾ in. wide, from 5 to 7 yds. long, and not higher than 1 in. up on the quill.
3. An ideal bunch for 7s filling is 8 yds. long, with a ⅝-in. height on the quill. The length should be three times the fabric width.
4. On 40s yarn to weave a 40-in. cloth, a ⅝-in. bunch with 10 yds. of yarn is suitable. The bunch should be as close to the butt of the quill as possible.
5. For 40-in. goods, a bunch should be ⅝ in. wide and 6½ yds. long and begin at the start of the straight wall of the quill. There should be no ridges on the bunch, and the regular stroke of the frame should not run in behind the bunch.

Spooler Speed Is Discussed

The drum speed of Barber-Colman spoolers in one mill running 10s to 17.5s yarn is 1,150 rpm. The mill considers 1,000 rpm. an ideal speed for this yarn; and when production permits, the speed is dropped.

Best results are obtained in another mill on 16s yarn at 940 yds. per min. Another mill runs 21s yarn at 1,660 rpm. but thinks that 1,400 rpm. would be better. A speed of 1,200 rpm. is preferred for 13s to 21s yarn, but the mill runs this yarn at 1,350 yds. per min.

SPINNING DISCUSSION was led by John Alford, superintendent, Covington Mills. T. R. Scott, general superintendent, Martha Mills, was the general chairman; and Lester Sayers, superintendent, Dunson Mills, led the carding session.

Kinks in the yarn have been experienced by some mills. This trouble may be caused by the rise roll being set too low, the pressure-level spring too loose, the yarn number too heavy, too much twist in the yarn, and too much slack in the slack tube.

Some suggestions offered to combat this problem are:

Clean all suction tubes and the slack arm with mineral spirits weekly, and keep a close check on pressure-roll springs.

Move the rise roll up to make the cheese turn faster. This change is said to eliminate kinks but increase end breakage.

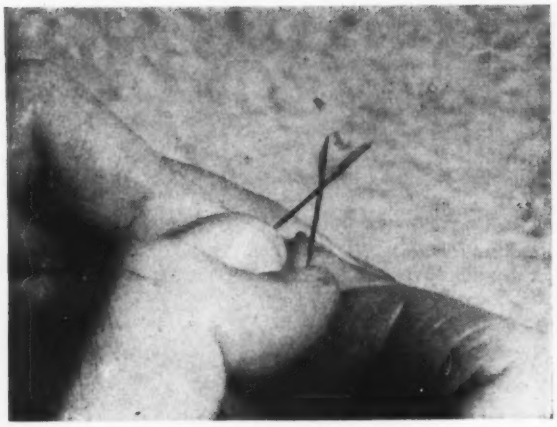
Cut an 8½-in. piece of ½x⅜-in. key steel, and put it on the back of the plough so that it slopes down toward the drum. This slope will pull out the kink before the cheese contacts the drum.

The kink is caused by the build of the bobbin and will happen on warp yarns. Use a warp wind on 20s and coarser yarns and on yarns with a twist multiplier of 4.00 or greater.

Adjust the rise roll and the pressure lever. If the rise roll is too low, too much slack will be put in the yarn; if it is too high, not enough slack will be put in, and the yarn will break.

Put more tension on the pressure-arm springs. Doff all spinning frames with the rail going down and about ¼ of the way from the top of the last stroke.

When a bobbin doffed in this way is tied to the cheese at the spooler, the yarn pulls off the bobbin under enough tension to pull out the kinks.



THE SPACE between the beard tip and the groove must not allow the smallest thickness of a needle stem to pass.

A FINAL CHECK can be made by gripping the beard with the pliers and viewing along the top edge of the needle.

Attention to KNITTING ELEMENTS Keeps Full-Fashioned Machines Busy

Here is a checklist on the fitting and maintenance of:

- Needles
- Sinkers and dividers
- Narrowing points
- Knock-over bits

By K. ALBERT HAHN

STIFF COMPETITION in the full-fashioned-hosiery market makes machine maintenance for better quality, fewer rejects, and less downtime extremely important now. In spite of the improvements in the speed and automatic operation of machines, the full-fashioned knitter cannot yet be regarded as a machine tender. Whether the mill is busy or not depends a great deal on the knitter's attention to knitting elements.

Needles are now straightened before they are shipped by the needle manufacturer, but this fact does not relieve the knitter from the important duty of checking every needle he uses. Here is a successful method for checking needles.

How To Straighten Needles

Hold the needle at the corner of the butt between the thumb and the first finger, with the butt facing up and the needle head toward the eye. Hold the needle so that the tips of the finger and thumb do not obstruct the view along the back of the needle. Tilt the needle at a 5 to 7° angle to the line of view, and look along the back of the needle.

To remove the kinks and bends in the back, grip the needle with the tip of the pliers at the kink's highest point. Turn the butt toward the pliers if the needle has a belly and away from the pliers if the bend outward is on the needle back. Place the thumb of the left hand against the kink and pull upward with the first and second finger underneath the needle and on both sides of the pliers.

The crimp in the beard should not be too pronounced, and the space between the beard tip and the groove must not be wide enough to allow the smallest thickness of a needle stem to pass. See that the beard is aligned over the center of the groove. To correct a badly positioned beard, hold the needle with the butt turned down and the top turned toward the eye and gently stroke the beard with the pliers.

How To Check Needles

To make a final check, grip the beard with the pliers and look along the top edge with the butt turned up.

Another check is to hold the needle in the pliers about an inch from the top of the pliers and halfway down the stem of the needle with the butt up and the top toward the eye. Look through the opening in the pliers, and hold the pliers so that an equal amount of light is seen on both sides of the butt. Without turning the pliers and with the eye fixed on the butt, bring the top of the needle up until the surface of the back can no longer be seen.

If the needle has been straightened correctly, the butt and the beard will stand directly above each other and exactly in the center of the opening between the plier jaws.

Poorly straightened needles cause (1) faulty selvages, (2) excessive wear on the sides of the groove where they rub against the sinkers and knock-over bits, (3) cut stitches when the narrowing points cover the needles, and (4) irregular fabric. A bent needle back or belly will cause shorter or longer loops and irregular wales. A beard out of line with the groove does not register in the narrowing

point and may fail to cast off the delivered stitch. If the beard is closed too much, drop stitches may result; if it is opened too much, excessive needle breakage, narrowing trouble, and pronounced wales result.

How To Replace Needles

During needle replacement, the needle plate is loosened and the needle alignment under the plate is destroyed. When the plate is being tightened again, watch the top line of these needles to make certain that the original position of the needles is relocated. In this way, you will spend less time in restoring the straight line and will avoid excessive tightening.

When needles are straightened in the needle bar, keep the needle body straight. The needle head must not be tilted to the right or left. Face the needles, rather than look at the top of them, so that you can see all the needles and line them up at the same time. Grip the needles below the groove to prevent squeezing the groove and to avoid knitting and narrowing trouble from closed-up grooves.

Place a white card in front of the needles to reflect the light against the shanks and accentuate imperfections. Check the beards by placing the card behind the needles with the needle bar laid back as far as possible. View the needles with the head close to the narrowing rods.

If there is any doubt about the correct needle spacing, compare the top and bottom position of the needles with the knock-over bits. The spaces between a replaced needle and the adjoining needles are sometimes unequal because the replaced needle was straightened correctly but the others were not.

Correct Needle Line Constantly

When a machine operates for some time, the needles bend because of the repeated pressing against the presser edge and the strain on them during dividing. The needles are bent where the stem emerges from the needle bar. This condition cannot be prevented, but the tendency to bend back can be retarded by constantly correcting the position of all needles out of line.

Although one needle out of line is easily detected, several needles out of line are not easy to see and will cause streaks that may not be discovered until the stockings are dyed and finished, particularly in dark shades.

If these faulty needles are not plainly visible, the streaks can be detected by passing a finger across the fabric parallel to the needles when the fabric is dry.

Needles are manufactured with the greatest precision; but irregularities, particularly in length, should be checked when new brands are introduced. While an odd needle now and then will not affect the product much, continually adding improper needles will eventually present a serious problem, especially if the machine is switched to a finer yarn.

Size should never be allowed to collect around the needles at the top of the needle bars. These accumulations absorb moisture, rust the needles, and cause weak spots in the needle where considerable resistance is demanded. Failure to remove these accumulations may lead to breakage when needles are bent with the pliers. The size should be blown off with an air gun and the needles brushed with needle oil each shift.

Straighten Narrowing Points

Much trouble with narrowing points can be avoided by straightening the points before fitting them in the fingers instead of bending them at the first sign of trouble. Narrowing points do not require as much straightening as needles, but they are more difficult to handle. Particular care must be taken not to squeeze or damage the groove. The same principles used for straightening needles can be applied to narrowing points.

The points on old machines will usually be pulled forward, and they should be brought in line with the new points when new points have been fitted. In moving the points back, insert one jaw of the pliers in the groove and pass the other jaw between the points to prevent damage to the groove.

The same principles used on the needle bar can be applied to the narrowing fingers. The danger of bending the brass part of the narrowing finger when excessive pressure is applied to the screwdriver can be avoided by supporting the back of the narrowing finger with two fingers of the left hand while loosening or tightening the plate screw.

Watch Sinker Replacements

When sinkers are removed for replacement, they should be checked and the same type of sinker put back. A short-back sinker is used only where a stud runs through the head. A regular sinker will cause trouble if placed in a short-back sinker slot. Selvage dividers should be confined to the selvage part of the head because they are more apt to lose their alignment than regular sinkers.

Changing sinkers or dividers when the needles are empty avoids complications. If the replacement must be made while the set is partially finished, all frictions must be disengaged and the needle bar laid back where the replacement is to be made. It is advisable to lay back all the needle bars before lifting off the catch bar.

Run the machine across and stop when the catch bar has brought the dividers in line with the sinkers. Lift off the catch bar by depressing the catch-bar lifting handle under the presser shaft. To prevent bending the carriers, take care not to raise the catch bar more than necessary to clear the tops of the dividers.

Allowing the machine to roll back will cause the catch bar to recede. The space above the bar will permit further raising and engaging of the lifting handle. To remove the damaged sinker, push the sinker back with a wire as far as the jack permits, move the sinker to one side of the jack, and extract the sinker from the back of the head.

How To Put Back Sinkers

Sinkers and dividers should be checked for straightness and defects before they are placed in the heads. Here's how to insert the sinkers:

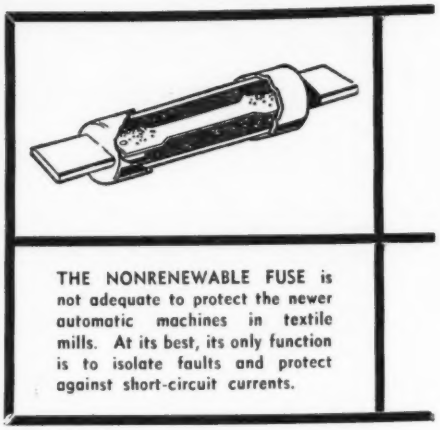
Push back three or four sinkers on either side of the one removed, and insert the nose of the new sinker between the jack and the adjoining divider. Move the sinker toward the sinker head until the jack prevents further forward movement. Push the jack out of the way with a wire, and push the sinker up against the verge plate.

Before engaging the catch bar, make sure that all sinkers and dividers are in their foremost position. Turn the machine over carefully, and lower the catch bar to prevent touching the carriers. Turn the machine still further, and let the catch bar fall on the dividers as soon as the front edge is level with the front of the dividers and sinkers.

A slight turn of the machine will allow the catch bar to fall into place. A check-up of the catch-bar lifting arms will show whether or not the catch bar is engaged correctly.

CONTINUED ON PAGE 202

Three IMPROVED FUSES Protect Electric Motors



THE NONRENEWABLE FUSE is not adequate to protect the newer automatic machines in textile mills. At its best, its only function is to isolate faults and protect against short-circuit currents.

► Old types of fuses are no longer adequate to protect the increased capacity of electrical systems supplying the average modernized textile plant. The new types of fuses protect both machinery and motors and also eliminate costly and unnecessary shutdowns.

By J. C. LEBENS
Bussman Mfg. Co.

CHANGES TOWARD MORE automatic methods in manufacturing yarns and cloth are increasing the capacity of electrical systems supplying power to the mill.

The more automatic the process becomes, the more important the continuity of electrical service becomes. Each failure is objectionable, not only because it interrupts production but also because it demands inspection and correction by trained personnel before production can be resumed.

Selective Skill Is Needed

The changes to automatic methods require more skill in selecting fuses to avoid unnecessary shutdowns. These unnecessary shutdowns must be eliminated; but, at the same time, if mechanical trouble develops in the process, the electrical protection must function to shut it down before permanent damage is done.

Under normal and satisfactory operating conditions, the current can vary within extremely wide limits without injuring the equipment as long as the current is not permitted to flow longer than a predetermined, safe time. Under faulty or dangerous operation, these same currents are maintained long enough to damage, if not destroy, the device.

The boundary between satisfactory and faulty operation is a matter of time at any particular value of current. If the current is cut off before damaging conditions are reached, the electric motor is not being operated at its full capacity. But, on the other hand, the motor is destroyed if the current is allowed to continue too long.

As the machine becomes more complicated, the length of time the current can be continued at any given load becomes more critical. As a result, the fuse must be more sensitive to the machine needs. An understanding of the types of fuses available is necessary to select them properly.

Power fuses rated at 600 v. or less, commonly referred to as low-voltage fuses, are commercially available in three basic types: nonrenewable, renewable, and dual element.

Time Lag Limits Performance

The nonrenewable fuse is the oldest and most common type of low-voltage cartridge fuse. It consists of a zinc link surrounded by an arc-quenching filler.

The nonrenewable fuse has little time lag. When it is used on motor circuits, its size must be several times the rating of the motor it is to protect to eliminate needless blowing or harmless overloads. Because of this feature, there is a range between the full-load capacity of the motor and the rating of the fuse where the motor can be damaged without blowing the fuse. For this reason, the principal function of the nonrenewable fuse is to isolate faults and protect against short-circuit currents.

Because the nonrenewable fuse is not adequate to protect the newer textile machines, it is being replaced with a better type, the renewable fuse.

The renewable fuse is better than the nonrenewable one because the cost of fuse replacement is reduced. The fuse case is stronger to eliminate the arc-quenching filler. This construction permits simplifying the renewal of the fuse element or link.

Another and more important advantage of the renewable fuse is that time lag can be built into it so that its rating can more nearly approach the rating of the circuit without useless blowing.

Time lag is built into the renewable fuse by reduced sections or weak spots in the fuse link next to wide sections loaded with zinc lag plates that increase the thermal capacity of the link. Current flowing through the link generates heat in the weak spots. At low overloads, current flows into the lag plates and elevates the temperature of the link slowly. This time-lag provision gives the fuse more time to blow on low, harmless overloads.

At high overloads and short circuits, there is no time for thermal conduction; the temperature of the weak spots increases rapidly until the melting point of the zinc is reached. Then the fuse blows.

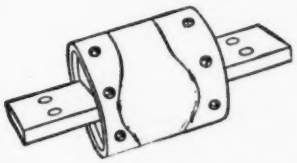
Avoid Needless Shutdowns

The cross-sectional area of the weak spot of the renewable fuse is less than that of the nonrenewable fuse because all the heat for the renewable link must

Based on a talk recently given to the Textile Subcommittee of the American Institute of Electrical Engineers at Raleigh, N. C.

THE RENEWABLE FUSE reduces the cost of fuse replacements. More important, it contains a time-lag element that permits an approach to the rating of a circuit without useless blowing.

THE DUAL-ELEMENT FUSE gives complete protection. With this fuse, useful overloads are controlled with the time-lag properties that still give adequate protection.



THE 600-AMP. FUSE, or larger, coordinates with the dual-element fuse to protect power systems and lets any undamaged part of the system continue in operation.

be generated in the weak spot in contrast to the generation of heat throughout the entire length of the nonrenewable-fuse link.

For this reason, the blowing time of the renewable fuse under short-circuit conditions is less than that of the ordinary nonrenewable fuse even though the time lag of the renewable fuse is greater at the lower overloads. Therefore, the current-limiting action of the renewable fuse under short-circuit conditions is greater and is a step toward the ideal goal of complete protection under all conditions of overload and short circuit.

The third type of fuse, the dual-element one, is the best of the three types and gives complete protection. This fuse combines a thermal cutout with a fast-acting fuse link in the same fuse case to build up sufficient lag time in the device to eliminate useless blowing on useful overloads. The fuse size, equal to or slightly larger than the full-load current of the electrical equipment being protected, can be chosen in this type of fuse to open the circuit on any overload continued long enough to create a hazard.

The dual-element fuse actually insures against needless circuit interruptions. But when the fuse blows, real protective measures are present. The development of this fuse is a big step toward the solution of the electrical-protection problem.

This fuse does a good job of protecting and isolating machines, but it points out the need for a larger fuse.

Fast Action Protects Machines

There's also another phase of the electrical-protection problem that demands consideration. The large electrical loads in modern textile mills require large-capacity circuits capable of delivering heavy short-circuit currents under faulty conditions. A few years ago it was impossible to obtain short-circuit currents on low-voltage systems at 25,000 amps. Today, acceptance tests at 35,000 amps. and test stations capable of producing 200,000 amps. are common.

Therefore, the interrupting capacity of the low-voltage fuse may be the controlling factor in its selection for the electrical protection of textile plants. If the protective device blows up and creates a hazard on a short circuit, it cannot be used even though its other characteristics match those of the circuit and the equipment it is protecting. To prevent failures of this type, tests were conducted to improve the interrupting capacity of the dual-element fuses.

Both the 250- and 600-v. fuses (the two common sizes) performed perfectly when tested on circuits capable of delivering alternating current and short-circuit currents as large as a 212,000-amp. peak at rated voltages. Both fuses cleared the circuit so fast that the short-circuit current did not have time to build up to the amperes actually available. This fast action simplifies the performance of the fuse and also limits the damage to the circuit and equipment that might be caused by the magnetic forces produced if the normal short-circuit currents were not limited by the fuse. That's the reason the current-limiting action is so important.

The results of the tests show that both the 250-v. and 600-v. dual-element fuses have adequate interrupting capacity to perform satisfactorily on textile-mill circuits. The two fuses will also coordinate properly with each other under such fault conditions.

Little Fuses Boost Big Ones

When an actual short occurs at some point in the circuit, the fuse nearest the fault blows to shut down only that part of the circuit and permits the undamaged part of the power system to continue in operation. Such conditions result if the smaller fuse blows before the larger one to isolate the trouble. Since the speed of operation and the current-limiting effect are greatest for the smaller fuses and since the time required to blow decreases as the size of the fuses increases, proper coordination is assured.

The need for fuses in ratings larger than 600 amps. to coordinate with the dual-element fuses has resulted in the development of another fuse. This fuse is made in ratings from 1,000 to 5,000 amps. at 600 v. or less. It is designed to be bolted directly to the bus bar to eliminate the extra resistance of fuse clips. The important electrical characteristic of this tube is fast operation on heavy short circuits so that the current will be limited to safe values.

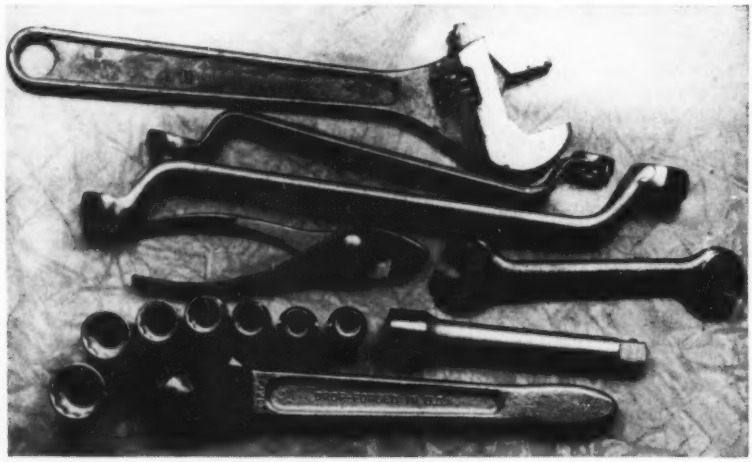
All sizes use a tube 5 ins. long. The over-all length is 11 ins. The 1,000-, 1,200-, and 1,500-amp. fuses have a 3½-in.-dia. tube and terminals 2½ ins. wide. A hole for a ½-in. bolt is provided in the center of each terminal.

The other two fuses in this series increase in diameter of tubes, width of terminals, and number of mounting holes as the size of the fuses increase. The three sizes are 1,000 to 1,200; 2,500 to 3,000; and 4,500 to 5,000 amps.

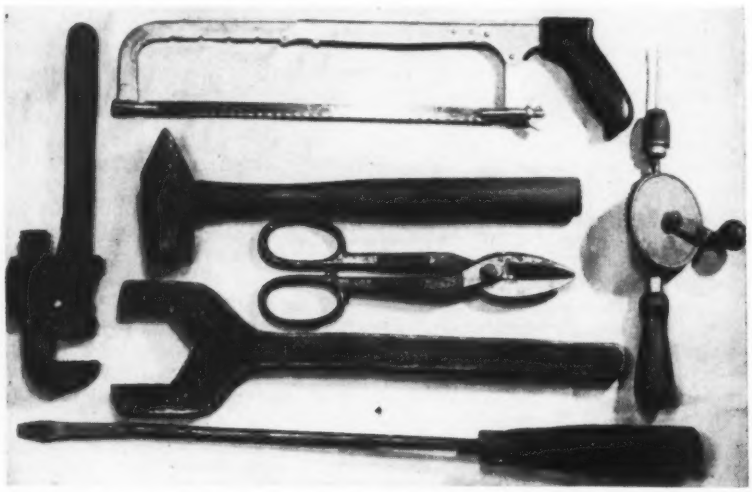
When these fuses are used with the dual-element fuses, it is possible to design a completely coordinated protection system with adequate interrupting capacity from the smallest branch-circuit fuse to the main fuse.

GOOD and for FIXING

FIVE POCKET TOOLS—an 8-oz. ball-peen hammer, a 10-in. screwdriver, a ¼x3⅛-in. setscrew wrench, a ⅜x¾-in. open-end wrench, and a ½x9/16-in. open-end S-type wrench—will do two-thirds of all loomfixers' work.



KIT TOOLS—including an adjustable wrench, two offset box-socket wrenches, pliers, large setscrew wrench, seven socket wrenches of graduated sizes, a 4-in. extension, and a socket wrench—should be within easy reach of every loomfixer.



HEAVY TOOLS—including a large screwdriver, auxiliary-shaft wrench, tin snips, hand drill, Stillson wrench, 4-lb. hammer, and hacksaw—should be among the large store of tools kept in a loomfixer's tool box.

▶ Poor tools and "slap-bang" loomfixer methods go together. For good loomfixing, throw away worn tools and replace them with special tools for easily and quickly setting looms to the gauges that are now a part of every good loomfixer's equipment.

By WILMER C. WESTBROOK
Consulting Editor, TEXTILE WORLD

HIGH-SPEED LOOMS have made precision settings necessary for the closely machined parts, and these settings require special tools and gauges. The old-time loomfixer, who needed only a hammer, screwdriver, and two or three wrenches to keep his belt-driven E-model looms in good condition, has dropped his rule-of-thumb methods and substituted new tools and new gauges to fix looms better.

Five Tools Make Most Repairs

But two-thirds of all loom repairs can still be made with the few tools formerly used. The other third requires a whole toolbox full of tools and gauges.

The basic tools are carried in loomfixers' pockets. Generally these tools are included: an 8-oz. ball-peen hammer, a 10-in. screwdriver, a $\frac{5}{8}$x$\frac{7}{16}$-in. open-end wrench (No. 34), a $\frac{1}{2}$x$\frac{9}{16}$-in. open-end S-type wrench, and a $\frac{1}{4}$x$\frac{3}{8}$-in. setscrew wrench. With these tools, a loomfixer can remove, replace, and adjust pickers, picker sticks, shuttle boxes, binders, checkstraps, power straps, picker-stick guides, temples, warp stop motions, feelers, and some of the gears and cams.

For greater speed on some of these jobs, 12-point offset box wrenches are often used to replace the old standby 34 and the S-wrench. For many recessed setscrews, a T-wrench is used instead of a regular setscrew wrench.

Leather pocket pouches for tools are a good protection for loomfixers' clothing.

BAD TOOLS

LOOMS

UNSAFE TOOLS injure loom parts and are an accident hazard. The screwdriver has a rough handle and rounded point, the pliers are worn, the hammer has a chipped head and splintered handle, and the jaws of the wrench are worn.

Other tools should be kept in a small tool kit with a handle so that the kit can be moved from loom to loom. If the kit is used on E-model looms, it can be hung on the breastbeam of the loom with small hooks. Cleats on the bottom of the kit will hold it firmly to the breastbeam of X-model looms.

These tools should be kept in the kit: pliers, a pair of leather punches, center punches, box-end wrenches, large setscrew wrenches, adjustable wrenches, socket and speed wrenches, special wrenches to fit thread cutters and feelers, lay-positioning gauges, picking-motion gauges, and other tools. Cotter pins, small screws, and many small repair parts such as thread-cutter knives and springs can be kept in the tool kit for quick repairs to loom parts.

Use Special Tools for Big Jobs

Heavy tools for overhauling jobs are usually kept in a large tool box when they're not being used. These tools include 2-, 6-, and 8-lb. hammers; an auxiliary-shaft wrench; a Stillson wrench of 10-, 14-, or 18-in. sizes; tin snips; a hacksaw; assorted screwdrivers; a hand or electric drill; chisels; punches; and several sizes of files and rasps.

Most of these tools are used infrequently; but they must be present for breakdowns such as worn or broken camshafts, crankshafts, head gears, loomsides, lay swords, etc. The smaller pocket-size wrenches are just too small for these jobs.

The most frequently used loom gauges are the reed square, 12-in. straightedge, 24-in. straightedge, picking-motion gauge, lay-positioning gauge, and a 6-ft. rule. Every loomfixer should have these basic gauges. Two of the gauges, the picking-motion gauge and the lay-positioning gauge, are for specific models of looms and should not be used on any looms other than the ones they're made for. The other four gauges are standard for all looms.

Other loom gauges that are seldom used should be kept in a central location to be available to all loomfixers. One set of these gauges is usually enough for a weave room.

Oil Looms; Avoid Unsafe Tools

Although the modern loomfixer isn't called on for production loom greasing, he can use an oil can and hand grease gun to save himself much work and save wear and tear on his other tools. In addition to any loom parts he finds that need lubricating, he should always oil or grease new parts he puts on if they require lubrication.

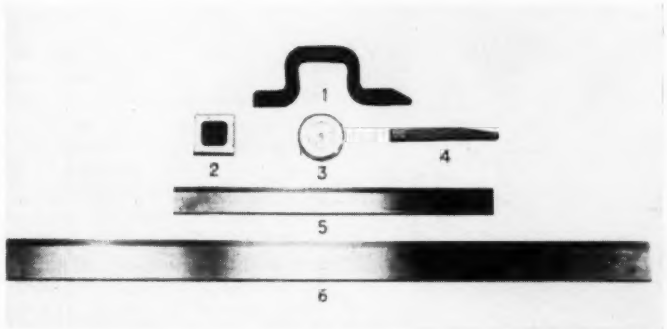
A short hook or awl is also part of the loomfixers' lubricating tools and should be used to clean out oil holes. A brush or paddle should be used to grease gears and cams.

The tools listed here will be adequate for most loom repair and maintenance jobs on under-cam looms without special loom motions. On looms of other types, the tool list will be incomplete.

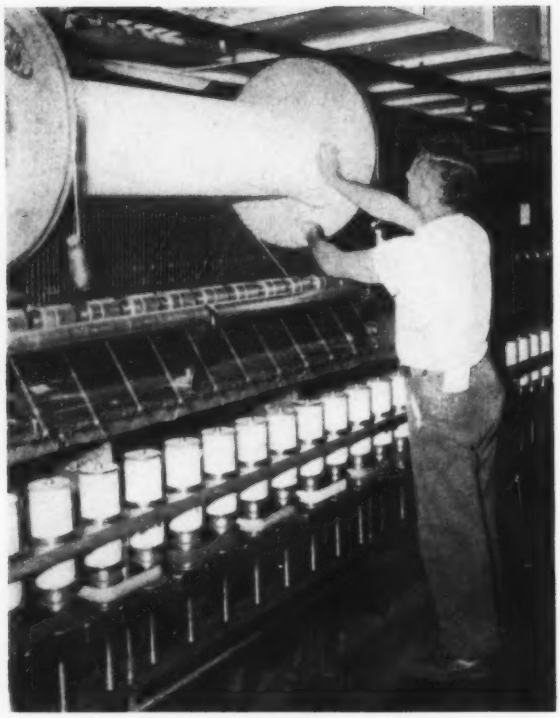
It's important to have tools that fit the job, but it's more important to have tools that are in good condition. An ill-fitting or widely spread wrench will make the job to be done harder. Improper tools will also slip and often cause serious accidents.

Pliers should never be used in place of a wrench because the nut cannot be turned enough to hold it tight and the pliers will often slip and wear off the corners of nuts. Other unsafe tools are: a hammer with a defective handle or chipped head, a screwdriver with a rounded or too-sharp point, a chisel with a mushroom head, and a file without a handle.

Keep These Tools Handy



SIX LOOM GAUGES—picking-motion gauge, reed square, steel rule, lay-positioning gauge, and 12-in. and 24-in. straightedges—fill the bill for most loom settings. Other gauges are needed infrequently.



ROUGH BEAM HEADS can cause chafed or broken filaments or yarns. The twister tender should inspect the heads often and correct rough spots.

TAPE IDLERS out of adjustment or stretched tapes slow spindles and reduce twist. Strobotac checks and adjustment of the idlers or tapes correct the fault.

Where Trouble Occurs in Handling

INCORRECT PICKS PER INCH, weaving tension, and cloth width may help deliver cloth in which the ply and cable twist have been changed in weaving.

▶ Most mill processing of filament yarns is basically handling the yarn in and between machines. Here is a report from a tire-cord mill, where processing is practically all handling, on where and how defects are added to yarn.

By E. DALTON WHITE

HANDLING YARN off the machine and in the machine results in the addition of many defects that may or may not be built into the yarn. Mills handling continuous-filament yarns probably are more aware of that than spun-yarn mills; and few, if any, other types of mills are as aware of it as tire-cord mills that handle both continuous-filament nylon and rayon.

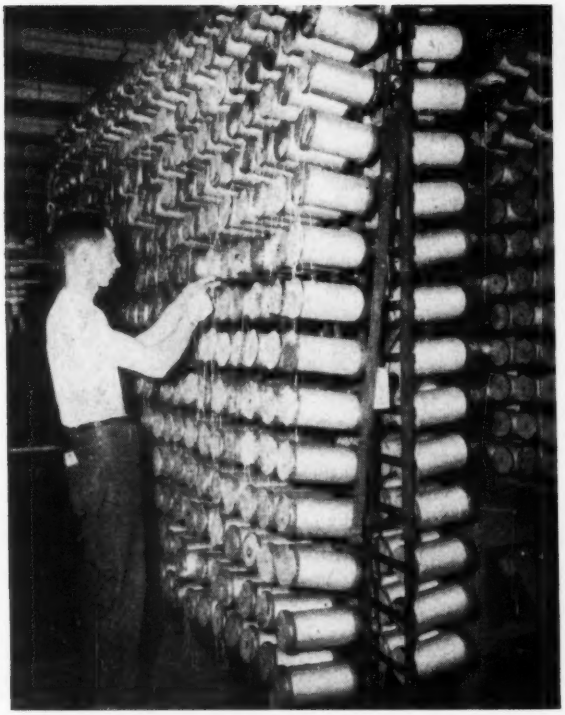
To find out where and how handling defects are added to yarn, we went to Aldora Mills, Barnesville, Ga., a tire-cord mill.

By following its defect-spotting and elimination program through the mill, we located several trouble spots where defects are likely to be added to yarn in almost any mill that handles yarn through those processes.

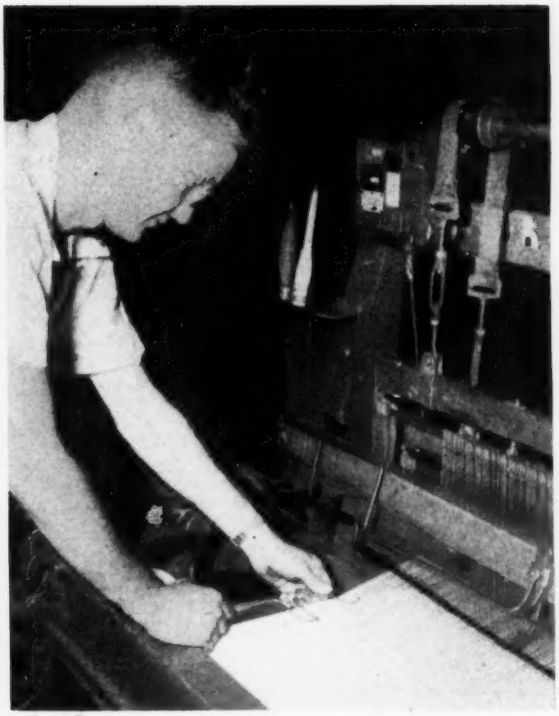
Yarn on Shipping Beams

Twist

Nylon and rayon yarns received by the mill on shipping beams are carefully checked by the physical-tests laboratory. The most common defect found is twist variation. Twist inserted by the mill in the different yarns it runs ranges from 10½ to 14 turns, but the twist in the yarn on beams received from the yarn supplier may vary from 0 to 3 tpi. Besides spotting this variation in twist and reporting it to the supplier, the mill tags the beams so that the varying



LOOM CREELER mixing yarn types, styles, etc. will deliver unusable fabric. Colored ends of bobbins help identification but don't avoid mix-ups.



LOOM TEMPLES in bad condition or out of adjustment may cause bad selvages and twist in these cords that is different from the rest of the cords.

FILAMENT YARNS

twist can be compensated for during processing.

Mixed Yarn

Rayon denier used is 1,100 and 1,650 and nylon is 210 and 840. Mixing them, of course, would create yarn variation that would make the yarn unusable. Defective yarn also would occur if yarn from different suppliers or different shipments of yarn from the same supplier were mixed. As soon as a shipment of yarn comes in, the mill marks it with an identifying color to avoid mixing.

Yarn on the Twisters

Besides being a spot where defects can be created, the twister is also a process where an alert operator can remove many of the defects built in or built on the yarn either by the supplier or in earlier twisting operations in the mill.

Slubs, Oil, etc.

The fact that yarn at the start of a beam is good does not mean that it is good the whole length of the run. If a section of the yarn is obviously defective as a result of improper twist, denier, slubs, soil, oil, fly, etc., the tender pulls off that portion of yarn and makes waste of it. He also must be careful not to create similar defects at his machine.

Beam Heads

Nicks and rough places on the inside of the beam heads snag or abrade the yarn as it pulls off. Weak yarn from this cause can be avoided by making certain that beam and bobbin heads are smooth.

Spindle Speed

Variation in spindle speed of more than 2 to 2½% from standard speed for the frame delivers yarn with too much variation in twist. Periodic checking with a Strobotac spots excessive speed variation.

Ring Oil

Latex or rubber won't stick to oily yarn; therefore, the ply- and cable-twister tenders must be on the lookout for oil and grease damage. Such damaged yarn must go into waste.

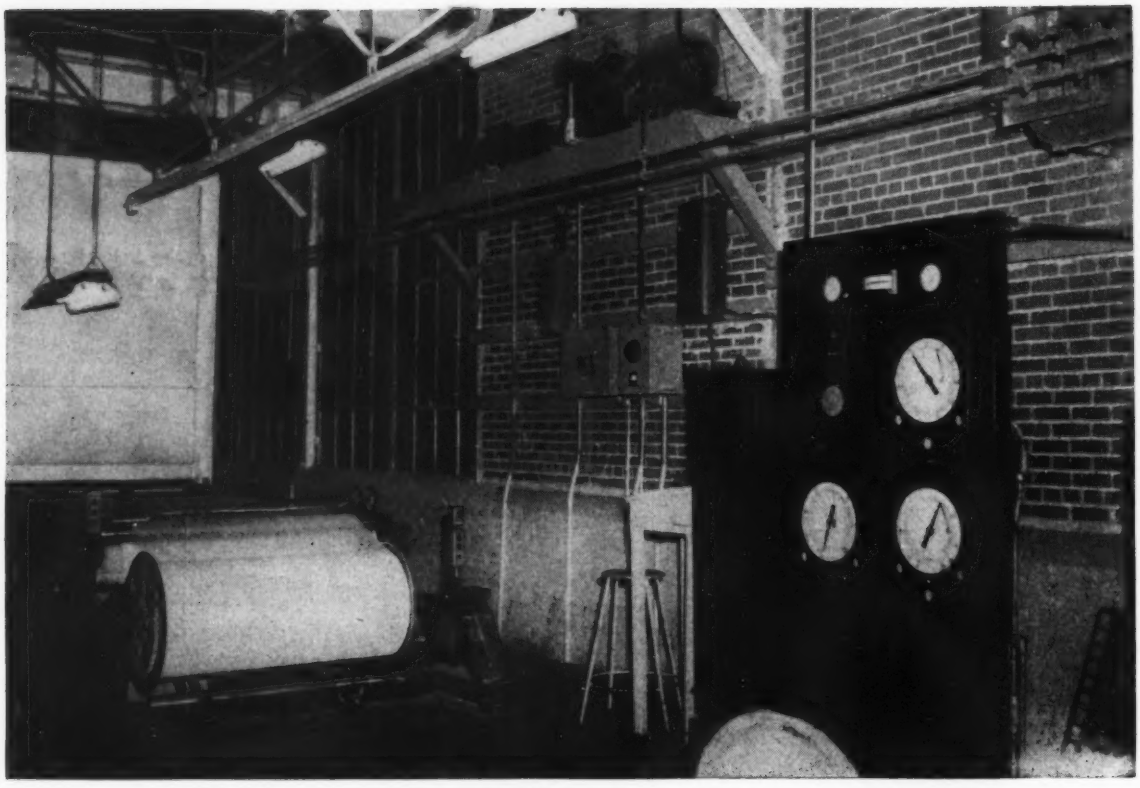
Yarn at the Loom

Mixed Yarn

Built-in defects are easy to make at the loom by creeling wrong or mixed bobbins of yarn. The loom creeler checks all the yarn he creels for type, style, supplier, twist, and denier. While these things are supposed to be taken care of by the identifying color of the bobbin heads, alert checking by the creeler may spot mistakes made earlier in processing or handling.

Weaving

Improper loom settings and speeds will change the twist and elongation of tire cord. Low weaving tension will allow cable twist to increase at the expense of the ply twist. High tension will increase elongation.



CONTROL PANEL for gas-fired slasher with multimo or drive gives constant speed and moisture control.

How Avondale Brought Its Electrical Equipment Up to Date

► New machines and processes at the various plants of Avondale Mills brought the need for better electrical equipment. Here's the way the Electrical Engineering Department solved its problems.

By WALTER L. ROARK, JR., Avondale Mills

IN RECENT YEARS, we have modernized numerous machines and processes in the various plants of Avondale Mills. As the machinery and processes were modernized, the electrical systems also had to be modernized so that the additional loads could be met adequately, safely, and efficiently.

Based on a paper presented at a recent Atlanta, Ga., meeting of The Textile Subcommittee, American Institute of Electrical Engineers.

Six New Switchgears Added

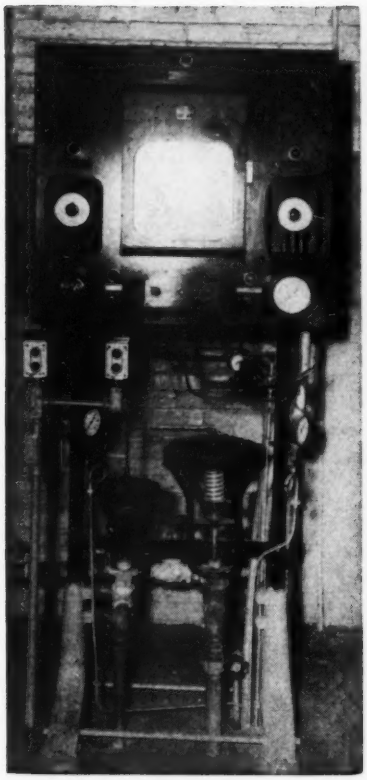
To insure reliable operation of electrical equipment, we began our main electrical modernization program with the switchgear. During the past five years, we have installed six new switchgears in our plants.

Five switchgears are the metal-enclosed outdoor type, and one is a metal-enclosed indoor type. All the switchgear equipment installed is the air-break, draw-out type with a main incoming-line breaker. From 9 to 18 feeder breakers are used.

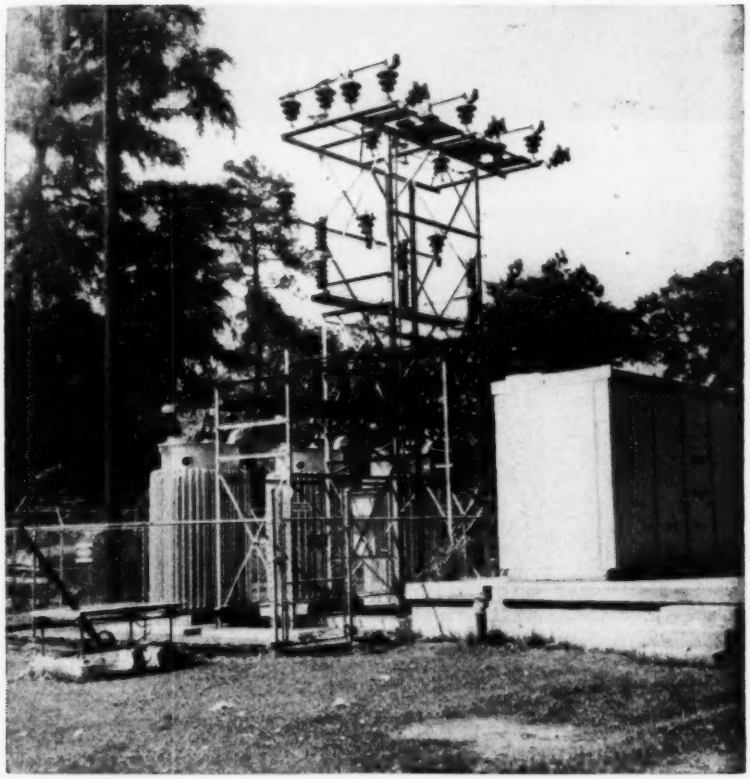
The selection of the main-breaker size and its interrupting capacity was carefully made for each substation according to the duty that could be imposed by the substation. Our main breakers are either 4,000-amp. or 5,000-amp. breakers, depending on the size of the substation.

All the main breakers have 100,000-amp. interrupting capacity; according to our calculation, this capacity is adequate for any of our existing transformer banks. Feeder breakers with 600-amp. ratings and 50,000-amp. capacities are cascaded with the main breakers.

Each switchgear contains a ground detector and a full complement of totalizing meters. Three-phase current metering is used on the individual feeder breakers.



DYEING CYCLE within a Smith, Drum & Co. machine is automatically controlled by setting the dials near the chart.

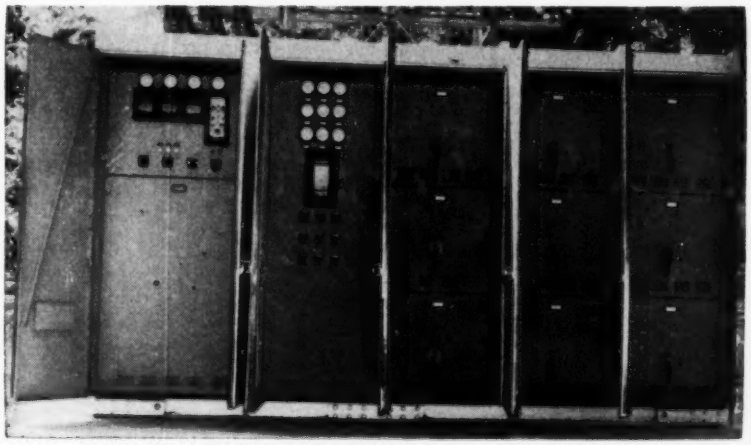


OUTDOOR SWITCHGEAR was added to five plants. This substation has three 1,000-kva. transformers. One metal-enclosed indoor switchgear was also installed as part of the modernization program.

Circuits Are Revamped

Along with modernizing the switchgears, we also revamped the distribution circuits. In most cases, our old electrical distribution systems consisted of a large number of small circuits connected in multiple to the oil circuit breakers of the switchgear. These circuits were virtually unprotected since the current rating of the cable was small, and the rating of the breaker was large.

In modernizing our distribution systems, we carefully analyzed our old circuits and grouped many of them in larger circuits. As a result, we have complete protection starting at the switchgear. The 500-MCM cable has proved to be the most practical size for our main feeders. We have installed this cable where it is needed as main feeders in conjunction with new switchgear.



INTEGRATED SECTIONS of the same switchgear contain totalizing meters from incoming line, tripping relays, and ground detector.

Lighting Is Improved

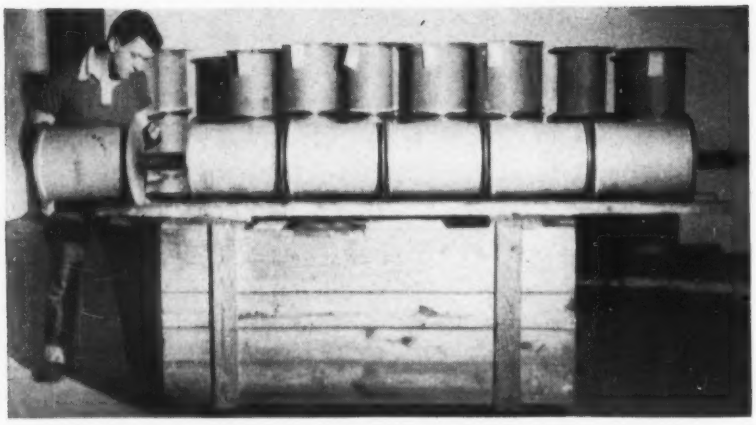
We have made many improvements in mill lighting the past few years. The quantity of light and electrical distribution of the lighting power have both been improved.

Before being modernized, a few large oil-filled transformers, usually located on the wall outside the mill, furnished all the low-voltage power for lighting circuits throughout the mill. The voltage drop in these low-voltage lighting feeders was high. The light in the mills was furnished by incandescent bulbs or the old single-tube 85-w. R. F.-type fixtures.

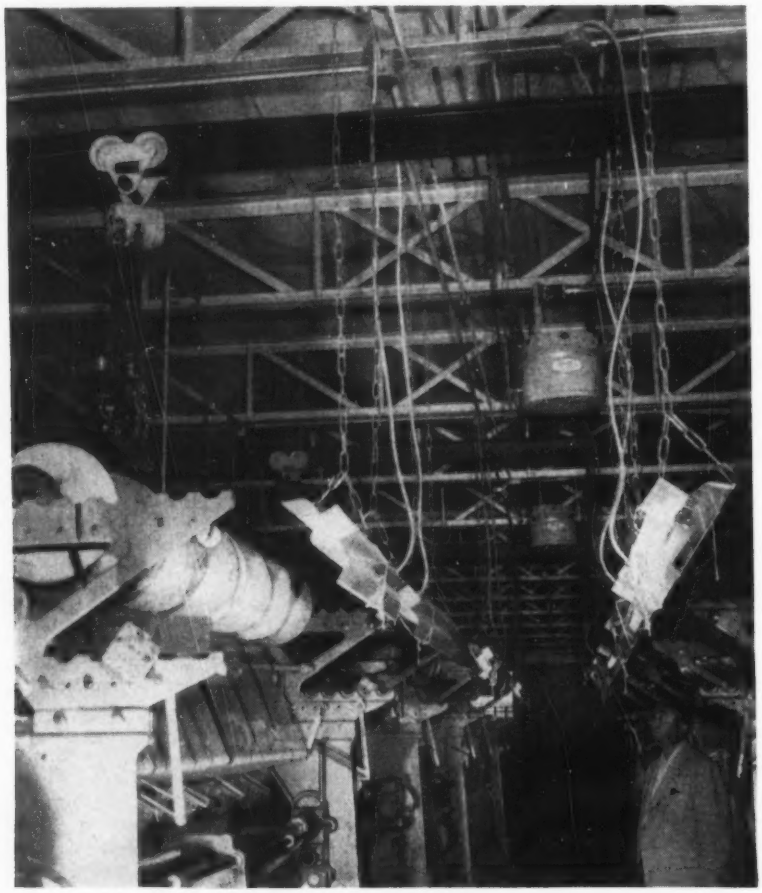
As the quantity of light needed throughout the mill increased, these old-type fixtures were replaced with fluorescent fixtures. The new fixtures have two 40-w. bulbs, three 40-w. bulbs, or two 85-w. bulbs.

CONTINUED ON PAGE 183

How a Small RASCHEL



WARP BOBBINS are slipped onto the beam shaft with the aid of a truck. Casters on the truck allow the truck to be pushed to the knitting machine.



HOISTING EQUIPMENT, running on H-type girders, makes for easy beam handling. Three Abbeon humidifiers keep conditions constant over the 12 machines.

A brand-new knitting mill installed a production-control system that runs from yarn receiving to fabric shipping and helps to—

- **Reduce waste**
- **Make a uniform product**
- **Reduce errors**
- **Control runners**

By JAMES H. BLORE
Assistant Editor, TEXTILE WORLD

When Abraham Hausman and Milo Dornbush decided to build their new raschel plant, they chose Copiague, Long Island, for the site. This location was chosen because of the short distance to New York City and the ample labor supply available. Milo-Hausman Textile Corp. installed 12 raschel machines a year ago, and production has reached a high level because of the methods used in the mill.

The back of the Reiner creel faces the unloading dock, and nylon yarn from various throwsters is stored behind the creel. When the yarn is ready to be creeled, the production clerk lifts a full case of yarn on a small trolley fitted with four casters.

Production Control Starts At Yarn Receiving

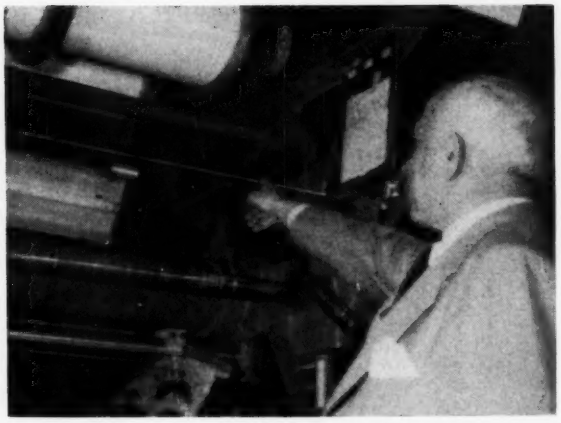
As each case of yarn is opened, a ticket is made out by the production clerk. The ticket shows the merge number, case number, yarn type, and weight. This ticket goes through the mill with the yarn and fabric to reduce errors.

After the warper operator has started to make a new warp, she replaces empty cones in the creel. The case or the trolley is pushed down the center of the creel, and an empty case is pulled along to receive the empty cones. A counter on the warper stops the beam when the necessary yarn has been wound on the beam.

During the running of the first bobbin in each warp, the warper operator puts a ticket between the yarns at 500-yd. intervals on back-beam

Plant Gets High Production

THREE-SHIFT COUNTER is checked daily, and the weekly course production is converted to weight. Drip trays under pattern wheels keep the floor clean.



DISK TENSION and a wire control the individual selvage ends. Colored cotton yarn is fed to one selvage for knitter-identification purposes.

warps. These tickets are removed during knitting to control piece lengths and runners.

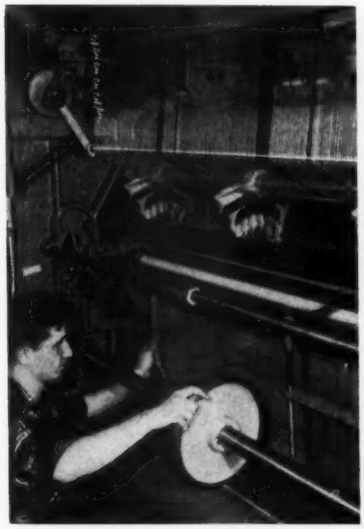
Yarn runs on the beam at 400 yds. per min., and the bobbin takes about 20 mins. to fill. The warper operator keeps the 12 raschel machines supplied.

A 3-ft. black strip painted on the floor around the creel helps the operator to see the fine yarn better. Figures from 1 to 6 are painted opposite each section of the creel for identification purposes. The first three 100-end sections are used for warping 36-gauge 14-in. warps with 40-den. yarn, and the first four sections are used for 48-gauge warps.

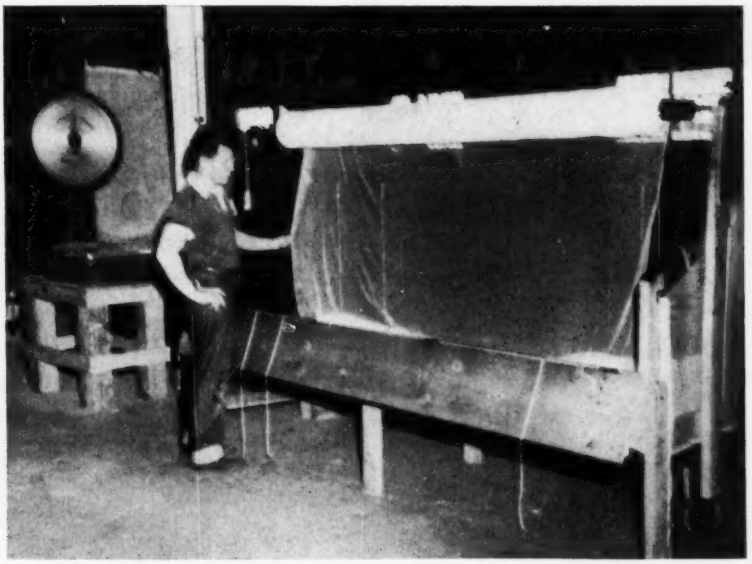
Creel Holds Two Yarns

The back sections of the creel are threaded with 30-den. yarn. When change-overs in yarn size are required, the 30-den. yarns are tied to the 40-den. ends in the front three sections and pulled through to the warper head.

Continuous fluorescent lamps over



ELECTRIC STOP MOTIONS keep faults to a minimum and allow one operator to run six machines. Brake-band let-off is connected to warps with a chain.



FABRIC INSPECTION is done over this mill-made frame. The background is painted black, and a hinged flap allows for heavy fabrics.

More Efficient Spinning...

for wool . . . .SYTON

for blends . . . . ..SYTON

for synthetics . . ..SYTON

This spinning and finishing agent increases yarn strength, ups efficiency, imparts good hand.

for wool . . . . . Syton increases yarn strength up to thirty percent. Enables you to spin to lighter, finer counts, making a variety of new constructions possible. Helps you produce more uniform, condensed rovings. Gives you a stronger yarn with less twist. And that isn't all, you get other advantages, too: less fly and waste, fewer ends down, faster machine speeds.

for blends . . . . . Syton gives you a more uniform yarn. Strength is increased, production speeded, dyeing more uniform, quality improved.

for synthetics . . . . . Syton produces a dry, crisp hand like that of worsteds. It improves slippage control on filament-type fabrics. It gives valuable special effects on nylon marquisettes, rayon linings, taffeta and many other fabrics. It improves color, imparts better drape.

for more information . . . write for booklet, "Profitable spinning of wool and wool blends with Syton," to Inorganic Chemicals Division, MONSANTO CHEMICAL COMPANY, 1700 South Second Street, St. Louis 4, Missouri.

Syton: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS – PLASTICS

the center of the creel, one lamp across the creel front, and two 40-watt Nu-Lite Niletone lamps over the warper head make for easier warping.

Superintendent Joseph Raybin likes to keep the relative humidity at 60% and the temperature at 70° F. when 40-den. nylon is processed. He finds these conditions (1) keep up the weight of the yarn and the fabric, (2) give a lubricity to the yarn that helps the yarn to knit better, and (3) aid the antistatic treatment given to the yarn.

A static eliminator placed behind the fan reed and a shot-blasted tension bar behind the stop motion have helped eliminate static troubles. The tension bar has also resulted in more-uniform tension on the yarn. Tension on 40-den. nylon is kept at 4½ gms. This tension gives more-even warps and lower end breakages than other tensions.

New 3-lb. Packages Work Well

A 3-lb. package wound on parallel tubes has given excellent results. No excessive tension variations have been discovered. Better warps have been made with less downtime because there are fewer knots and the packages run for longer periods without renewing.

When the warp is finished, the operator turns the bobbin until a mark on the brake drum lines up with a mark on the warper frame. While this alignment is maintained, the ends are taped so that all tapes are level when the bobbins are placed on the shaft.

When beams are required for knitting, they are slipped on the beam-shaft with the aid of a special truck. The truck is a wooden box that runs on casters. Two lengths of 2x4-in. lumber are screwed a few inches apart on the top of the truck. The first bobbin is placed on the truck, and the beam shaft is pushed through the bore. The remaining bobbins are then pushed easily into place with the tapes in line.

A chain hoist lifts the empty beam from the machine that needs yarn and places it on an empty beam truck. The loaded beam truck is pushed into position, and the full beam is hoisted onto the machine.

The H-type rails run over four machines to carry the block-and-tackle hoisting equipment. There is a block-and-tackle to each rail, and the tackle is pulled to the machine to be loaded.

Hand Threading Takes Two Hours

When the bars are threaded for tulle, the front bar is threaded first while the bar is swung to the front. The back bar is then threaded with the bar swung back. Threading the 1,800 ends on both bars through the guides of the 36-gauge machine takes 2 hrs. when done by hand and 1 hr. 45 mins. by the dauber method.

The Kidde raschel machines are fitted with electric stop motions. A bar studded with brass contacts stretches the full width of the 100-in. needle bar, and the fabric passes between the comb plate and the stop-motion fingers.

When a hole occurs because of a faulty needle or a yarn out of the guide, the stop-motion fingers contact the comb plate. A contact is made in the stop-motion controller to move a simple clutch lever and stop the machine. A transformer converts 220-v. current to 12 v. for the stop-motion circuit. The transformer is fixed with the controller to the machine end frame.

Although the machines run at 300 courses per minute, faults more than 3 ins. long seldom occur. The stop motions also allow two operators to attend the 12 machines. Two Allen screws are removed to take the stop motion off when new warps are started.

A brake-band let-off has been fitted to some machines, and Superintendent Raybin says that this let-off equalizes the tension throughout the run of the beam, eliminates the chore of removing weights, and decreases stop marks. As the tension on the warp becomes tight and the tension bar is drawn down, the brake band is released and allows the beam to turn. The brake band is positively connected to the warp beam with sprockets and a chain.

Selvages Knitted From Colored End

The selvages are knitted from bobbins riding on pins in the end frames. The right-hand package is a 30/2 colored mercerized cotton yarn to identify the knitter. Each color denotes a certain shift, and the knitters simply change the bobbins when they change shifts.

The selvage ends are individually controlled by tension disks on brackets screwed to the end frames. A wire stretched across the machine also helps control the selvage ends and eliminates selvage troubles.

Drip trays have been made from sheet metal to keep the floor free from oil. The warp separators are put in a position to keep the warp sheet in a nearly vertical position to reduce friction on the yarn.

Veeder-Root counters on all machines keep a record of production from each shift. The recording is taken in units of 100 courses. At week's end, the total production count is taken, the number of stitches is converted to weight, and the weight is checked with the weekly production chart.

Tickets Help Runner Control

The tickets placed in the warp by the warper operator are numbered. As the tickets appear in the warp during knitting, the knitter removes the ticket and records the number on the production chart on the machine end frame. As each third ticket is removed, the fabric is cut and the take-up roll with the fabric is removed from the machine.

All beams produce exactly eight rolls of fabric, and each piece has a lot number before the piece is knitted. These tickets hang on the machine production chart and are

CONTINUED ON PAGE 174

Don't Ask Why

If you tell a man to do something two times and he doesn't do it, you want to know why he didn't do it. (If you asked him his opinion before you told him the first time, he might have suggested a better way to do it.)

The best way not to find out why is to ask why. If you ask a man why he didn't do what you told him to do, he would probably give you an excuse. People usually give bad excuses because they're forced into giving them.

A good fixer might tell you why a machine is causing trouble, but he can't tell you why he is causing trouble. Most people have a hard time giving true answers to "Why" questions about themselves. Ask yourself why you didn't do something you should have done, and listen to the bad excuses you can give yourself.

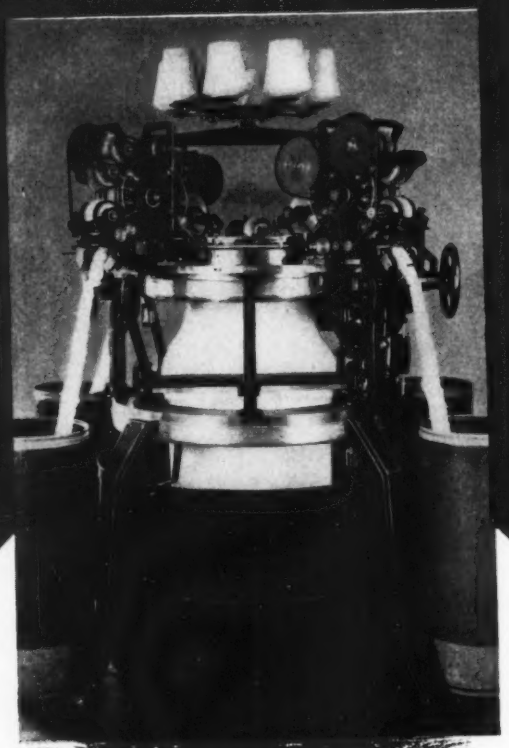
If there are any rules for getting along with people, one of the best is "always give a man an out." It helps nobody to pin a man down; you'll only get a bad excuse.

NEW

WILDMAN KNITTING MACHINE DEVELOPMENT

produces . . .

KNIT Pile Fabric



WILDMAN PILE FABRIC MACHINE HAS UNUSUAL FIBRE CARDING ATTACHMENT

●

RAW STAPLE IS FED TO KNITTING NEEDLES—

and then locked together with regular knitting yarn formed into backing fabric of plain jersey construction.

Staple of almost any type and size may be employed on the machine. The carding unit and the needles can handle natural fiber staple as well as staple made of Orlon, Nylon, Acrilan, Dynel or any of the other synthetic fibers, or combination of natural and synthetic staple. The staple size used may range from ¾ inches and up.

Depending upon the type and composition of staple used, an almost unlimited variety of fleecy and fur-like fabrics may be produced. Depth of pile is determined by the size of the staple fed into the carding attachment.

Inquire, today, for complete details.

WILDMAN

MFG. CO., NORRISTOWN, PA.

MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

NEW CARPET BACKSIZER processes up to 15-ft. widths. The ducts at each side of the machine carry away dirt and lint set free in the brushing operation.

Carpet Mill Installs New BACKSIZERS

► McBride backsizers installed at the Archibald Holmes & Son plant help maintain efficient production of quality carpeting material. Carpet widths up to 15 ft. are backsized at speeds up to 10 ft. per min.

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

Archibald Holmes & Son, Philadelphia, Pa., recently installed two McBride carpet backsizers. One machine is designed to process carpet up to 15 ft. in width, while the other is used for simultaneously backsizing two carpets 27 to 36 ins. wide. The 15-ft. machine can process up to 10 ft. of carpet per minute.

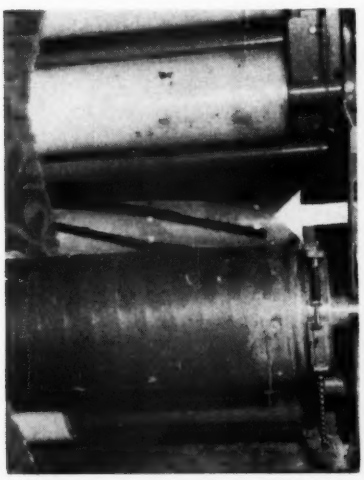
Carpets are backsized with a thermosetting protein resin. Before running over the size roll, the back of the carpet is brushed with a high-speed nylon-backed brush to remove dirt and lint. A suction device, developed by Holmes, removes the dirt and lint to keep it from entering the size box. Tension on the carpet is applied by tension bars and a fillet-covered tension roll over which the carpet passes. Then tension-roll let-off is governed by brake bands at both ends of the roll.

A lift roll is located just ahead of the size roll. A carpet not to be backsized is raised by the lift roll to clear the size roll. In the wide machine, the lift roll is hydraulically operated; in the narrow model, there are two lift rolls independently controlled by shift levers.

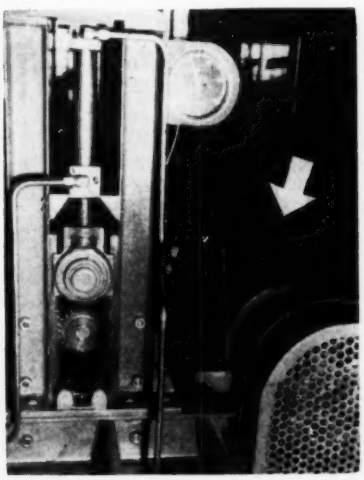
The speed of the size roll determines the amount of size take-up and is governed in the wide machine by a hydraulic control and in the narrow model by a Reeves variable-speed drive. A dial registers the speed of the size roll. No doctor blade is used.

After the carpet is sized, the pile is brushed and the carpet is steamed in a unit made by H. W. Butterworth & Sons Co., Inc. After leaving the steamer, the carpet is dried at approximately 240° F. in an Andrews & Goodrich, Inc., dryer unit. Drying completes the operation.

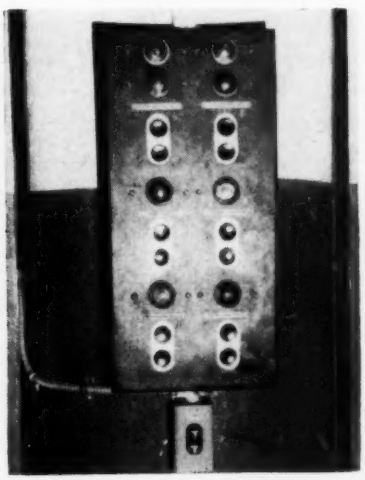
A convenient control panel is used to operate the brush, exhaust fans, and carpet roll in the steaming and drying operations. One man operates the range from backsizing to drying.



ROLL with let-off controlled by brake bands applies proper tension to the carpet. The spiral brush (arrow) removes lint and dirt from the carpet back.



LIFT ROLL, hydraulically operated, raises the carpet (arrow) out of reach of the size roll. The meter (upper right) indicates the speed of the size roll.



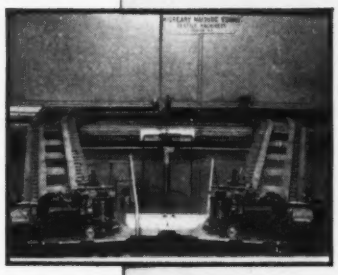
CONTROL PANEL operates the brush, exhaust fans, and carpet roll in steaming and drying operations. One man operates the entire range.

McCreary 1-pass system†

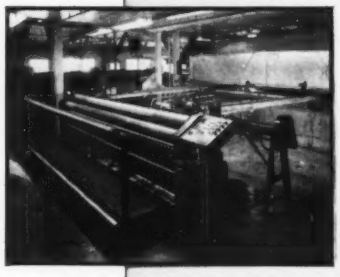
provides low cost finishing of synthetic tricots and woven fabrics

Exclusive features . .

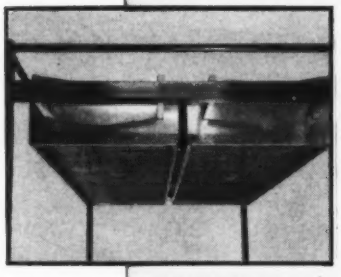
- Automatic Pinning and Overfeed
- Roller Bearing Tentering Frames
- Electronic Guider Control
- Jet Type Forced Air Dryer
- *G-E Calrod Radiant Heat Setting
- *G-E Reactrol Control



Automatic overfeed combined with new type roller bearing tentering frame adjusts for cloths of any width from narrow nets to wide tricots.



New super-sensitive guider-finger, with electronic controls and *G-E Dynamic Breaking, permits very close, accurate edge pinning of the finest cloth.



Electro setting unit combines *G-E Calrod radiant heaters and *G-E Reactrol Control, an electronic system which holds cloth temperature within the most rigid tolerances.

The McCreary CONTINUOUS PROCESS embodies the most advanced electronic and mechanical processes yet developed for feeding, drying and setting nylon, other synthetic and resin treated fabrics of superior quality and at substantial savings. The automatic feed gives positive and accurate control of the feeding of any width fabrics, assuring greater yield. The high velocity jet type forced air dryer continues this high speed low-cost operation. The electro setter sets fabrics accurately within the known temperature range of all synthetics . . . and again at low cost and with high speed. Installed in famous mills located throughout the world, the McCreary Process has proven itself the lowest cost method of finishing cloth yet available.

McCreary MACHINE WORKS, INC.

Manufacturer of Textile Finishing Machinery Since 1874

Cohoes, New York

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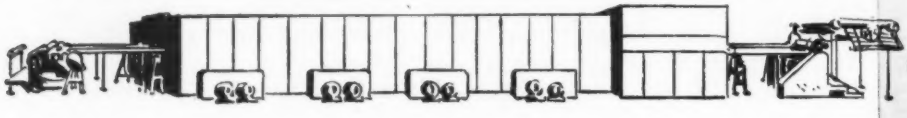

WRITE TODAY FOR DESCRIPTIVE BROCHURE

How the Management Team Can Build Better Human Relations

Pointers FOR SUPERVISORS

The Supervisor on the Witness Stand

▶ Would you know what to do if you had to testify? Do you know how to be a good witness? Here are some tips for the supervisor whose job sometimes leads him to the witness stand.

By MARION J. WISE, JR.

LIKE THE PEOPLE WHO SCATTER from the scene of an accident to avoid testifying, most supervisors dislike taking the witness stand. But on occasion, a supervisor can't escape: he has to appear as a witness in an arbitration case.

It's an unpleasant duty for the average supervisor. However, some advance information about arbitration procedure and some knowledge of how to behave as a witness can help take the curse off the experience.

What Happens at a Hearing

An arbitration hearing is like an informal court. The arbitrator, an impartial outsider agreed upon by both company and union, acts as judge. If the union is bringing the grievance, as usually happens, the business agent is the prosecuting attorney. The director of industrial relations, or whoever appears for the company, is the attorney for the defense. If the company is bringing the grievance, the roles are reversed.

Witnesses are sworn to tell the truth, the whole truth, and nothing but the truth. If the union is bringing the grievance, it generally opens with a statement of its position in the case. Next comes a statement of the company's position.

The union then calls its first witness and questions him in such a way as to bring out whatever testimony is favorable to the union's case.

It is important to know here that the rules of evidence are not followed and that hearsay evidence, conjectures, and leading questions to witnesses are admitted as evidence.

Leading questions won't upset you when they come from your own side. The director of industrial relations will reel off a string of facts or figures and then ask you, "Isn't that so, Mr. Foreman?" You answer "Yes," and that's all there is to it.

Where a Question Can Lead You

But look out when the other side does the same thing, because then the question will be loaded against you. The most famous example of the leading question is "When did you stop beating your wife?" Try to answer that without looking like a wife-beater.

If the questions are too prejudiced, your side has the right to object and ask the arbitrator to protect the witness from being badgered. So if you get a question you feel is unfair, just keep silent a minute and wait to be rescued.

When the union has finished, the management representative cross-examines the union witness—trying to trip him up, discredit him, and get him to contradict himself—and tries to bring out any points favorable to the company.

When the union witnesses have been heard, management calls its own witnesses (usually supervisors, since management cannot force rank-and-file employees to testify unless they want to).

And that's where knowing how to be a good witness helps a great deal.

Some supervisors are so nervous about appearing as witnesses that I'm convinced they would settle a grievance any way that would keep it from going to arbitration. One foreman I know has the sweats and can't eat before appearing as a witness. He has a hair-trigger temper and he knows it. Even worse, the union knows it and always needles him. He lives in terror that he'll blow his top—and the company's case—on the witness stand.

Actually, it isn't a terrifying experience if you'll take a few tips and try to follow them.

How To Be a Good Witness

First of all, tell the truth. You are sworn to do so, and no reputable company wants a member of its management team lying.

Equally important, don't talk too much. Answer the questions that are asked you and shut up. Don't volunteer a lot of information. It may have nothing to do with the case, or worse still, it may be information that your side doesn't want brought out. So answer, briefly and to the point, what is asked you, and be quiet. The recipe for a good witness is like the recipe for a good speaker: Stand up, speak up, shut up.

More cases are lost by a witness enjoying himself on the stand, as the center of attention, and talking his head off than by any other thing. And don't forget, the other side will encourage you to talk by appearing interested and leading you on. So you sit there and talk and talk while your side sweats it out and probably hopes you'll be struck dumb.

The opposite approach is the witness who'll hardly tell his name. This procedure usually infuriates the other side, and that's all right as long as you don't lose your temper. But it's important not to give the arbitrator the impression that you are being uncooperative or trying to conceal information.

Don't Lose Your Temper

A familiar approach by the other side is to try to discredit the witness's testimony by making him lose his temper, appear stupid, or contradict himself. No matter how annoying the questions may be, don't lose your temper.

If you begin to get hot under the collar, think of it as a kind of game where the first one who loses his temper loses the game. It's not often that the union is attacking you as a person; it is simply trying to get you mad so that your side will make a poor showing. And the arbitrator is likely to think that you must be a pretty rough sort to work for if you can't even answer questions without blowing your top.

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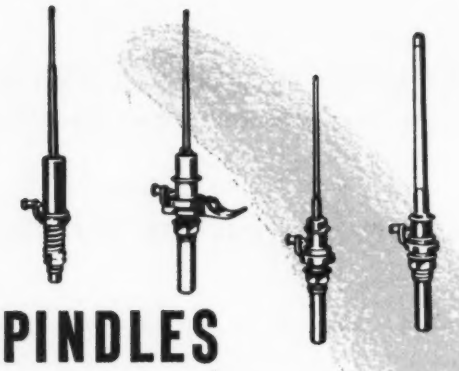
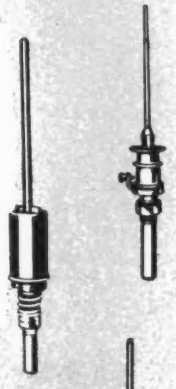
Marquette

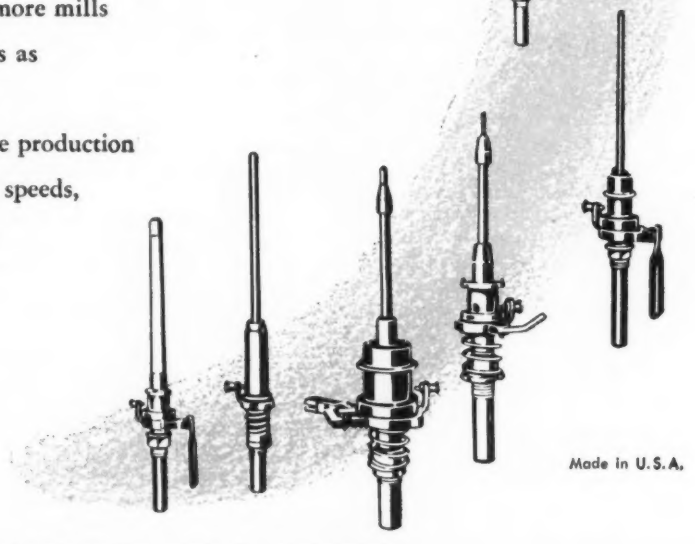


ROLLER BEARING SPINDLES
with FULL-FLOATING FOOTSTEP BEARING

Millions in Use



Year by year since 1942, more and more mills have been using Marquette Spindles as replacements and on new frames. Marquette Spindles not only increase production through efficient operation at high speeds, but also cut costs by their savings in power, tapes and lubricant.



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Exploring

The Textile Community

This Mill's Stock Pays Dividends In Better Community Relations

▶ When these employees invested their own money in the company they work for, they found they had an added stake in its operation. The company, the workers themselves, and their neighbors have all benefited from the investment.

By MILDRED BARNWELL ANDREWS

ON ONE OF MY RECENT mill visits, something new in good community relations turned up: stocks and dividends.

Time was when the fellow who owned stock in a mill was rated as a bigshot. Almost never was a mill worker's name on a mill-stockholder list. It was not exclusion, but a privilege the mill employee couldn't afford. Occasionally, in hard times, when a mill partly met its payroll in stock options, no one considered it profitable to the worker.

But times have changed, and in a way that has brought better understanding between the workers and the management.

How "Their Mill" Became "Our Mill"

While discussing the pros and cons of community relations with the personnel officer of one of the industry's better companies, I endeavored to find out just what was the basic reason for the feeling of confidence I found in the mill ranks and in the community. Everywhere there was the simple acceptance of "our mill," "our job," "our town."

While we reviewed the bulletin-board project, the signs on the roadside, the open house, and all the other routine but effective community-relations measures, the telephone jangled.

"Sure thing," said the personnel director. "We'll take it all if you'll let us have 24 hours."

And as he replaced the phone in its cradle, he glanced out the door and called to an overalled employee passing by to "come on in."

"Just had a call from an investment house," he told the employee. "Some one is trying to take a tax loss on some of our company's stock. Two thousand shares are on the market at $10. You think any of the boys will be interested?"

"That's great!", was the answer. "I'll see. But before I go, put me down for 50." As he turned to go, he said to the personnel manager, "Shall I call my own broker, or will you handle it?"

The details were as simple as that. Before I left the mill in the afternoon, all 2,000 shares had been purchased by the men and women in the plant.

Employees Become Stockholders

In the meantime, the president of the company told me more about the company's stock-ownership policy.

"It really started by chance," he said, "when some employees expressed a desire to buy a few shares. Then we offered the employees any amounts that came on the market. They pay the quoted price directly to the broker. We don't finance any transaction, and we assume they have the cash in hand to make the purchases. If there's any left, the front office buys it. So far, the front office hasn't had a chance to get any of the bargain lots.

"The interesting thing is how the idea spreads. John Jones, an overseer, bought five shares of our common. Right away he became aware of costs of operation and why dividends were or were not paid. He took more interest in his department, and before long the production rate increased quite a bit.

The Idea Spreads

"His neighbor doesn't work in the mill but runs a filling station. They talk over the economic facts of life, and Jones tells him about the company in which he's a stockholder. He has an entirely different attitude toward us since he is part of us and not just a worker here.

"I noticed a bit later that his friend was on our list, too. So obviously Jones gave him some favorable opinions about the company and his job and what makes both tick.

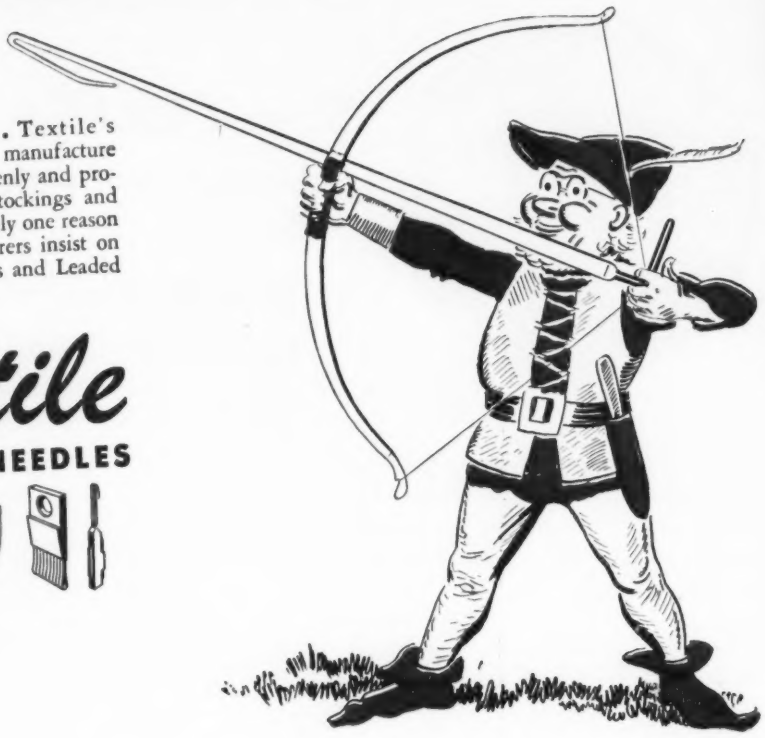
"When the going is rough, we tell our people and we tell them why. We discuss with them, frankly, what narrows our profit margin and what makes competition tough.

"We have the usual community programs, and we think they are pretty good. But we believe that this little thing of making available to our workers any amount of company common stock that comes on the market has done more to strengthen our bonds of loyalty than any other thing. It has made good solid businessmen and citizens out of just 'employees.' And the policy has certainly taught the community that our mill is here, making payrolls and dividends available to the people who live and trade in the town."

It's a good lesson in human nature and the intangible thing called "independence." It hasn't cost the mill a nickel and has brought a vast return in community good will.

Have you inquired about your company's stock lately?

AIMING FOR QUALITY?... Textile's automatic and electronic control in manufacture assures you of needles that knit evenly and produce top quality full-fashioned stockings and warp-knitted fabrics. And that's only one reason why America's leading manufacturers insist on using Spring-Beard Needles, Parts and Leaded Assemblies — by TEXTILE.



Textile

SPRING-BEARD NEEDLES

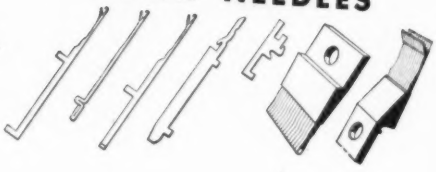
Wire Products Division

TEXTILE MACHINE WORKS, READING, PENNA.

Knit-wear for women — always in season — always in style. But for assurance of fine knitted products, your machines need Arrow Latch Needles — made to "Textile" standards of precision. Textile manufactures needles, parts and leaded assemblies for every make of knitting machine. Deliveries from stocks in Reading, Pa., Asheboro, N. C. and Manchester, N. H.

Arrow

LATCH NEEDLES

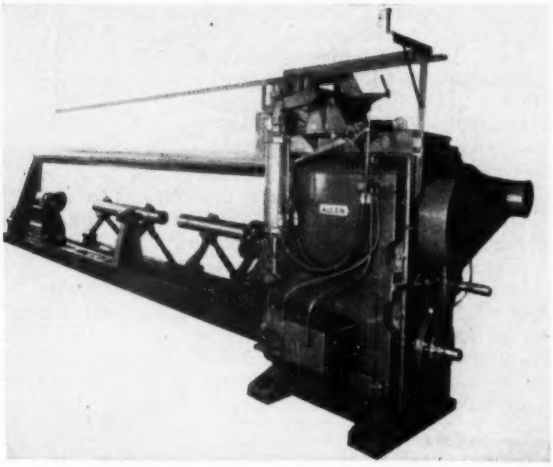


Wire Products Division

TEXTILE MACHINE WORKS, READING, PENNA.

TEXTILE Equipment NEWS

Allen Warper Announces New Heavy-Duty Beamer



HEAVY-DUTY BEAMER takes two or more loom beams at a time with traverse widths up to 21 ft. between heads. The beamer is available in 10, 15, and 25 hp.

A new heavy-duty beamer, Model H-3, is being delivered by Allen Warper Co. Lowell, Mass. This high-speed beamer accommodates one, two, or more loom beams at the same time, with traverse widths up to 21 ft. between heads or greater, and heads up to 44 ins. diameter or greater if required.

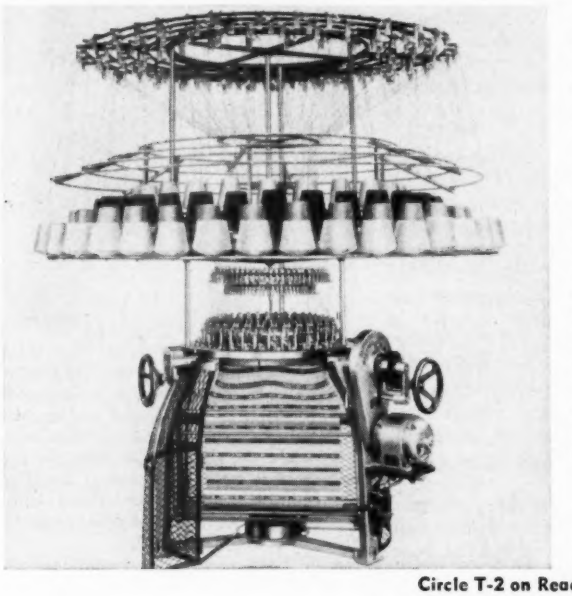
The Model H-3 is furnished in three classified units: 10, 15, and 25 hp. These machines are said to be excellent for beaming carpet and heavy yarns on the woolen and worsted systems and are applicable on the cotton system as a dry-slashing head for beaming cotton, duck, jute, paper, or glass yarns. A feature is the hydraulic compressor unit (patent pending), which not only maintains uniform yarn density but increases the yarn warped on a beam, which in turn lowers drawing-in and weaving costs.

The outboard drive can be repositioned in a matter of seconds; so it's easy to change beam-barrel lengths and traverse widths. Additional lengths can be added to the presser roll, or lengths can be removed with practically no downtime.

Full-length start-stop control rod or push buttons are furnished. Standard equipment includes a yardage counter, tension rolls, and a heavy-duty Allen positive-expansion comb. Other features include: double-end drive; constant yarn speed, hydraulically controlled; electric brake; heavy-duty clutch, giving gradual acceleration; beams loaded and doffed without moving outboard drive; hydraulic loading and doffing available.

Circle T-1 on Reader-Service Card

Simulated Rib Is Produced on Jersey Machine



Garments with a knit-on cuff that can be separated by a draw thread are made on a new sinker-top machine built by Supreme Knitting Machine Co., 105 Johnson Ave., Brooklyn, N. Y. The machine is Model SAAF-0.

The knit-on cuff is made by knitting and tucking and laying in elastic yarn. The elastic can be fed at every third feed or at feeds No. 2, 4, 7, 10, 16, 22, and 28.

The draw thread is fed at the first feed, and the elastic yarn fed at the second feed forms the selvage.

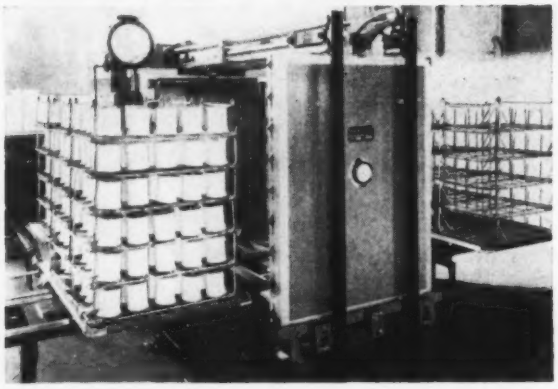
The pattern-placer units are controlled by a chain to commence jersey knitting after the required amount of cuff fabric has been knitted. The body can be knitted in plain-jersey, variable-stripe, colored-pattern, and textured effects. The machine has a 128-end tiered yarn stand. All 32 feeds have a four-color striping box, a three-position pattern wheel, and a pattern-placer unit.

The machine can be made with as many as 20 needles per inch, and 38 yds. of garment bodies can be made each hour. Two bodies or four sleeves can be cut from fabric off a 26-in.-dia. machine.

SINKER-TOP MACHINE knits garments with a knit-on cuff that can be separated by a draw thread.

Circle T-2 on Reader-Service Card

New Conditioning Machine Uses Pressure and Vacuum



CONDITIONING MACHINE uses alternating cycles of steam pressure and vacuum to provide a quick and thorough penetration of nylon-yarn packages.

A new yarn-setting and processing machine that provides quick and thorough penetration of nylon-yarn packages through alternating cycles of steam pressure and vacuum has been announced by Turbo Machine Co., Lansdale, Pa.

Turbo claims that steam pressure alone is slow to reach the core of a package, because air and moisture pockets block the penetration of temperatures needed to set the fiber. Long exposure to high-temperature steam is said to result in uneven setting when penetration does occur.

The new Turbo machine exhausts the steam and starts a vacuum cycle after the oven temperature has reached its high point. While the steam is being exhausted, the temperature begins to rise; and during the vacuum cycle, it rises more sharply. Steam pressure is then reintroduced, and the core of the package reaches the setting temperature almost instantly. With this method, Turbo claims that proper setting is accomplished in minutes instead of hours.

Time loss is further minimized with two bobbin carriers; one is being loaded by the operator while the other is in the machine for processing.

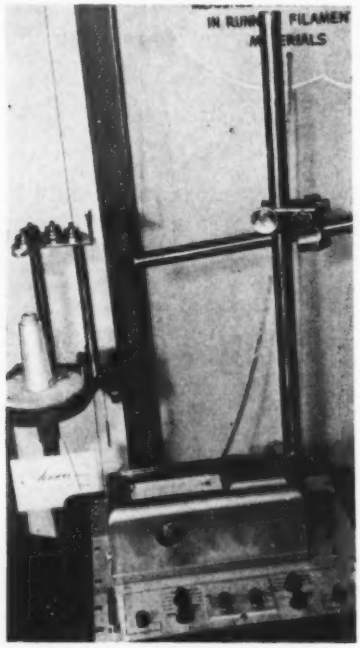
In addition to a small production model that handles 90 lbs. of yarn per load, a large production model capable of processing up to 300 lbs. of yarn at one time on the bobbin-loaded carriers is now available. The carriage dimensions are 27x37x55 ins., and the inside dimensions of the setting cabinet are 30x42x60 ins.

Automatic controls regulate the processing cycles.

Required boiler pressure is 100 to 120 lbs., with a stream flow of 800 lbs. per hr. for the large machine and 300 lbs. per hr. for the small machine. Floor space for the large machine is 12x14 ft.; for the smaller machine, 6x16 ft. All machines are built to order; so actual size can be varied to accommodate trays already in use.

Circle T-3 on Reader-Service Card

Tension Analyzer Measures Static or Running Load



TENSION, either load or running variations, is recorded directly on an oscillograph. An event marker can correlate shaft rotation with the pen trace.

The Brush Tension Analyzer, which is in production at Brush Electronics Co., 3405 Perkins Ave., Cleveland 14, Ohio, is a mobile unit for measuring and recording instantaneous tension loads in filament yarns. It will measure static tension levels and dynamic tension variations while material is running at high production speeds. Tension range is 4 to 400 grams full scale.

Housed in a mobile steel cabinet, the analyzer consists of a transducer, amplifier, and direct-writing oscillograph. In addition, an event marker is provided for correlating phenomena such as shaft rotation with the pen trace.

In operation, the material is placed over the three pulleys of the transducer, and the tension in the material causes mechanical displacement of the center pulley. The instantaneous tension can then be read from the oscillograph chart. The system is easily calibrated to read tension directly in grams per millimeter.

The tension analyzer filters out short-term tension variations as desired by the operator. This feature permits the isolation of long-term cyclic variations such as those caused by a traverse motion.

The transducer may be positioned on any plane at any level, from approximately 1 to 8 ft. above the floor.

Circle T-4 on Reader-Service Card

False-Bottomed Boxes Keep Roving Tidy

THESE FOUR BOXES fit neatly on a truck and have bottoms that lower as roving is carefully tossed in. Roving damage is minimized. Each box holds 20 12x6 bobbins, and one box is placed at the end of each spinning frame, from where the spinner gets roving for the umbrella-type creel. The system is in use at the new Durst plant of Greenwood Mills, Greenwood, S. C., and is manufactured by Fisher Mfg. Co., Hartwell, Ga.

Circle T-5 on Reader-Service Card

Universal 6 at Erwin Mills. Girl feeds goods to machine and the packages are conveyed automatically to packing station.

THEY MARVELED

at the beautiful wraps made by this machine

We wish you could have heard the comments made by textile men who saw this machine in operation at the recent Textile Show! All were impressed by the uniformly neat wraps it produces. And its wide size range and the speed with which it can be adjusted amazed them.

The Universal 6 is the most advanced wrapper ever offered textile manufacturers. For it makes a perfect wrap with Polyethylene, Vitafilm or cellophane. Printed matter is registered by electric eye. It is possible to adjust for length of package by two hand-wheel settings — width and height of goods being wrapped are automatically accommodated.

The product may be in cartons, in trays or on flat cards—and some goods may be wrapped without any card at all.

For a package that will impress both the trade and the public—and for lowest wrapping cost—the Universal 6 is your logical choice.

Write for leaflet which gives full information

The Universal 6 is quickly adjustable for packages 4" to 16" long, 2" to 9½" wide, 1" to 5¼" high.

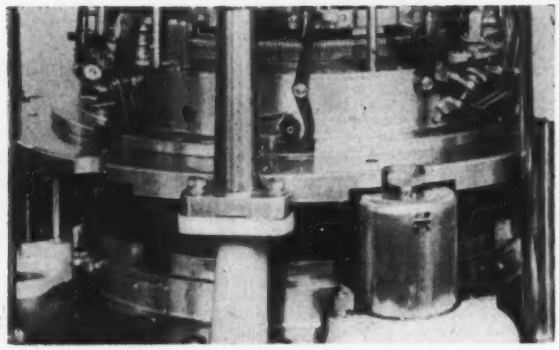
PACKAGE MACHINERY COMPANY • Springfield, Massachusetts

NEW YORK PHILADELPHIA BOSTON CLEVELAND CHICAGO
ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO
SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY

 For more information, write direct or use Reader Service post card.

New Tuck-Stitch Machine Has 10 Feeds



TUCK-STITCH MACHINE has been improved with the increase of feeds from 8 to 10 and a two-tier cam-box construction.

A new circular underwear machine built by Mellor Bromley & Co. Ltd., Leicester, England, has a two-tier cam-box construction; and the feeds have been increased from 8 to 10 to increase production.

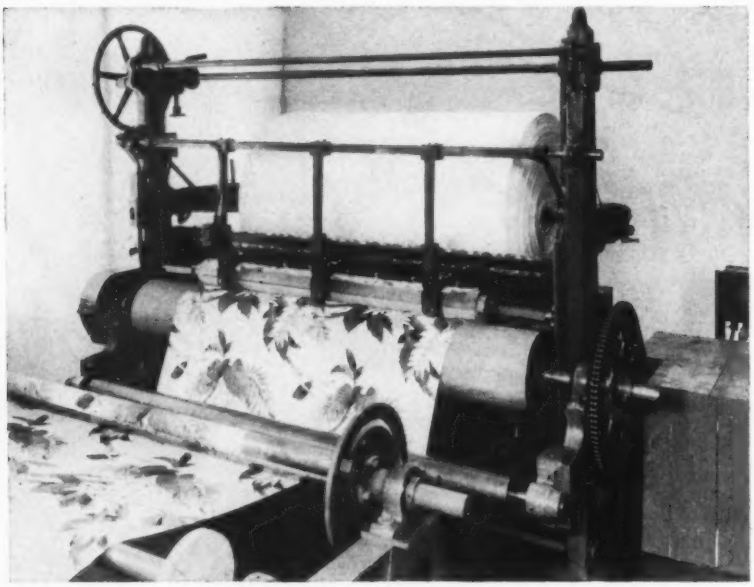
There are two pattern units to provide a large design scope in geometric and freehand patterns without spiral. The pattern units each control 32 plates, and the peg drums have 50 vertical rows of holes. The peg drums can be moved backward or forward or remain stationary.

The two-tier construction makes the jacks more accessible. Auxiliary feeds may be installed at the selector-unit positions to lay in rubber yarns. Swing clearing cams are provided at all feeds but two. The dial clearing cams can be withdrawn manually to the tucking position.

The new machine is built with 16-in.- and 18-in.-dia. cylinders with 14 or 16 needles per inch in the dial and cylinder.

Circle T-6 on Reader-Service Card

Butterworth Announces New Rotary Cutter-Winder



ROTARY CUTTER AND WINDER features cutting disks with 24 teeth per disk and a double-release mechanism that provides a straight drop after the roll is completed.

The EMCO rotary cutter-winder, featuring a new cutting device and a double release, has been announced by H. W. Butterworth & Sons Co., Bethayres, Pa.

The cutting device is made of numerous disks, 3 ins. in diameter with 24 teeth per disk. Cutters are driven by an electric motor, and they can cut materials at high or low speeds or when material is stationary.

The EMCO will wind and cut rolls of 12 ins. minimum diameter, which enables a manufacturer to handle short-run batches. It can be furnished to wind a soft roll, and it can wind and cut a wide variety of materials, including marquisette, bagging, 10-oz. duck, open-weave, heavy, and loosely woven materials. It cuts double-double sheeting at 75 yds. per min. (80 to 100 psi. air pressure is required), and other materials at 125 yds. per min. or more. It can cut and start the cut end on a new shell in handling most of the plastic films, vinyl-coated fabrics, nylon, etc.

The roll is moved from the back to the front drum by transfer arms that eliminate manual lifting. When a roll is completed, the double-release mechanism provides a straight drop.

Circle T-7 on Reader-Service Card

Westinghouse Announces New Loom Motors

LOOM MOTOR is one of the new series put out by Westinghouse. A feature is a rotor with a flywheel for smoothing out fluctuating loom loads.

A new series of Life-Line loom motors, designed for longer life and additional cooling, and with stronger construction, are available from the Westinghouse Electric Corp., Box 2099, Pittsburgh, Pa.

Available in ¾-, 1-, 1½-, and 2-hp. ratings at 1,800 or 1,200 rpm., two or three phase, these totally enclosed nonventilated motors have oversize bearings with a special grease to give longer motor life. The finned construction of the cast-iron end brackets increases motor strength and reduces over-all motor temperature. A heavy-duty rotor with a shrunk-fit flywheel provides high inertia for smoothing out fluctuating loads.

Designed with enough overload capacity to break in new looms, the motors are available in foot-mounted or three-point-suspension-mounted models with a conduit box or a multiconductor squeeze connector.

Circle T-8 on Reader-Service Card

Bonded

with GREATER GRIPPING AREA *for* GREATER STAYING POWER

Bonded directly to the cast iron core with adhesives developed exclusively for this purpose, and with effective bonding surface doubled by micro-threading the core . . . Stowe-Woodward roll coverings *stay put* under the most severe use. Stowe-Woodward's direct bond avoids the bonding failures which result from the stress and strain of extremes of pressure and temperature. It's an important point, because the qualities which make Stowe-Woodward rubber covered rolls outstanding would be valueless if the covers didn't stick.

If this has ever been a problem in your mill, it's time you called in your Stowe-Woodward sales engineer.

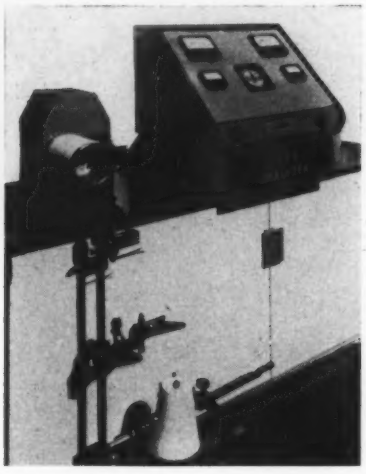
S-W INC.

STOWE-WOODWARD, Inc.

Customers in rubber

NEWTON UPPER FALLS 64, MASSACHUSETTS

Yarn Is Analyzed for Thick Places and Evenness



YARN ANALYZER has memory dials that retain the analysis data until the winding guide is reset. Four qualities are measured.

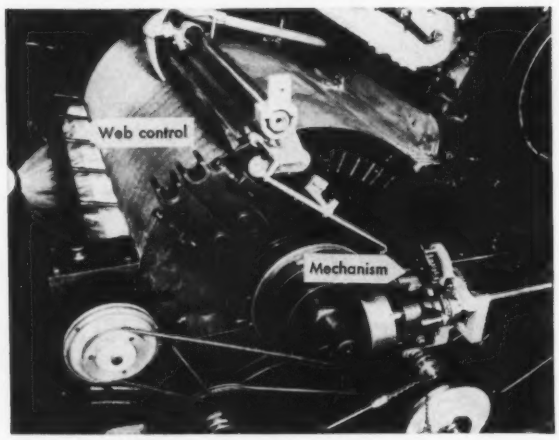
Circle T-9 on Reader-Service Card

The high-speed yarn analyzer developed by Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 N. 4th St., Philadelphia 33, Pa., contains an electronic computer that presents immediately, on memory dials, four separate measures of yarn quality:

1. Total mean linear unevenness percentage over a given length of yarn
2. Long-wave mean linear unevenness percentage integrated over the same length of yarn with drafting waves suppressed
3. Total number of slubs or thick places in the length. (A counter will add any yarn thicknesses greater than the percentage of the mean weight of the yarn indicated on the slub control.)
4. Comparison (percentage variation) of the actual count of imperfections to a known sample to which the instrument has been calibrated, or the percentage variation in imperfections between successive samples

The new device, which can be operated efficiently by nontechnical employees, is simply threaded with a 200-ft. yarn sample and started. The machine stops itself, and the readings are retained until the winding guide is reset. It adjusts automatically to any count of yarn within the range of the electrode used.

Web-Control Device Attaches to Abington Stripper



CONTINUOUS WEB CONTROL is attached to card with Abington stripper to keep the web intact with the comb. Features are an automatic feed control and air shut-off.

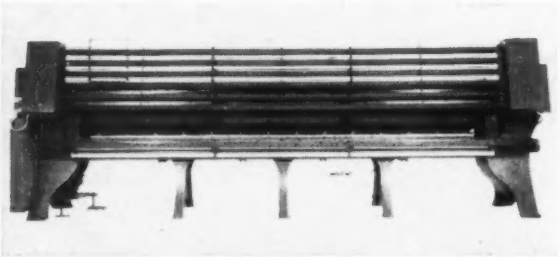
A stripping attachment that keeps the web on a cotton card always intact with the doffer comb has been developed by Abington Textile Machinery Works, North Abington, Mass. Features of the device are automatic feed control and automatic air shut-off. The device is easily applied to existing Abington strippers. After the card is stripped, the feed, air, and piecing-up operations are automatically completed.

Advantages of the continuous web and sliver device are: (1) piecing up after vacuum stripping is eliminated, (2) uniform automatic splicing improves quality, (3) thick and thin places that result from hand piecing up are eliminated, (4) dogtail problem is solved, (5) automatic feed control saves stock, and (6) automatic air shut-off increases card-stripping efficiency.

The company points out that there is absolutely no cotton on the floor after stripping a card equipped with the continuous web device.

Circle T-10 on Reader-Service Card

Pattern Attachment for Tufting Machine



THIS 216-IN. TUFTED-CARPET MACHINE is equipped with automatic pattern attachment that makes geometric or random designs in high or low nap. Each set of feed rolls (this 216-in. machine has six sets of feed rolls) is controlled from a pattern chain.

The automatic pattern attachment for tufting machines, developed by Cobble Brothers Machinery Co., 313 W. Main St., Chattanooga 8, Tenn., was designed for use with a short-loop tufting machine and will produce patterns in high and low nap, geometric or textured design.

The pattern attachment controls the amount of yarn fed to the needles. Each set of feed rolls has a multiple-speed drive, and the height of the nap is determined by the speed of the rolls. This speed is set so that the fastest speed feeds sufficient yarn to make the highest nap desired. When the speed is decreased, enough yarn is fed on each stroke of the needles to make a loop of full height; and enough yarn is drawn from a previous stitch to supply the difference. The previous stitch is left short, and the succeeding loops are shortened in the same way to make areas of low nap as determined by the pattern.

The width of the pattern is determined by the number of adjacent needles that are threaded over the same roll, and the length is determined by a pattern chain. There is one pattern chain for each pair of feed rolls; this chain is made up of high and low links, which operate electrical switches that direct the current to magnetic clutches, which control the feed-roll speed.

The clutches operate instantaneously; so the pattern attachment does not reduce the operating speed of the machine.

Circle T-11 on Reader-Service Card

AlSiMag® 192

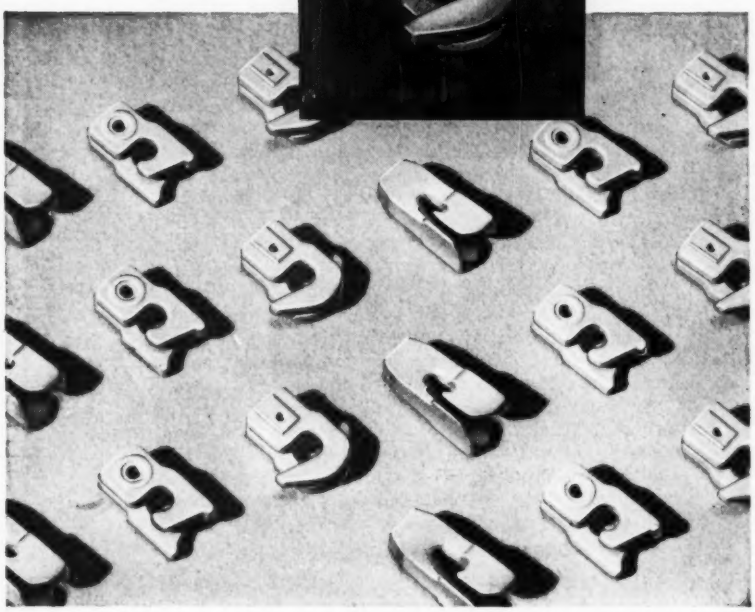
STANDARD DESIGN

Pig Tails

AlSiMag No. GS-22120

AlSiMag No. GS-30273

AlSiMag No. GS-30039



LONG LIFE • EXTREMELY HARD • HOMOGENEOUS

EASILY, QUICKLY THREADED...YARN WILL NOT JUMP OUT

CAN BE SUPPLIED IN

AlSiMag 192 (considered standard). A non-conductor of electricity. Hardness of 8 on Moh's scale. Gives exceptionally long life on most requirements. Ivory color.

AlSiMag 193. A conductor of electricity, used for dissipating static charges. Metallic grey color. Otherwise identical to AlSiMag 192.

AlSiMag 513. Super hard (9 on Moh's scale), resistant to cracking, chipping, great mechanical strength. Cost is justified where excessive wear is experienced or where satin finish must be maintained under severe conditions. Pink color.

Bright Polish or Satin Finish. Mill tests prove that satin finishes usually result in better yarn because of lighter tensions.

STANDARD DESIGNS WILL BE STOCKED FOR IMMEDIATE SHIPMENT. SPECIAL DESIGNS OR VARIATIONS MADE IN NORMAL PRODUCTION INTERVALS.

53RD YEAR OF CERAMIC LEADERSHIP

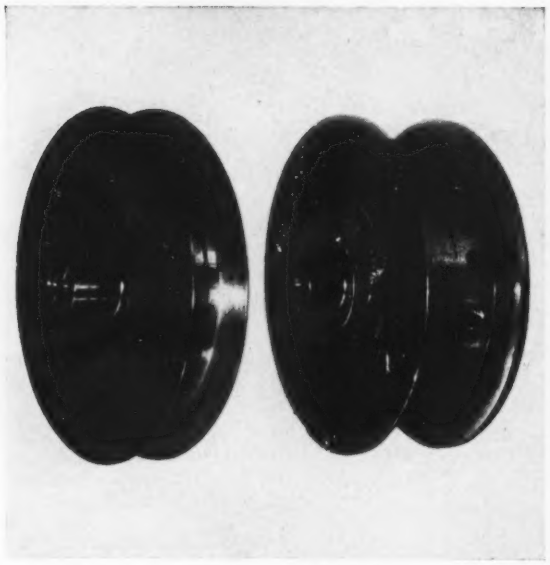
AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

A SUBSIDIARY OF MINNESOTA MINING AND MANUFACTURING COMPANY

SALES ENGINEERS: NORTH AND EAST: Jay S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, American Lava Corporation, Chattanooga 5, Tenn., 5-3411. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tenn., 5-3411. • CANADIAN REPRESENTATIVE: Ian M. Haldane and Company, Post Office Box 54, London, Ontario, Canada. • CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Huguenin Luzern, Gerbergasse 6, Luzern, Switzerland.

Builder and Traverse Pulleys



TRAVERSE PULLEY, No. SSB-405, for Saco-Lowell equipment.

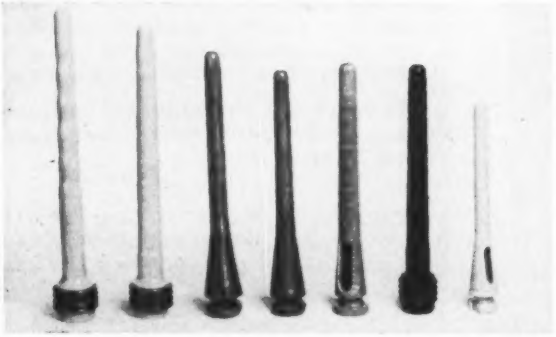
BUILDER PULLEY, No. WSB-345, for Whitin spinning equipment.

Ball-bearing pulleys for builder and traverse motions are available from Seabrook Transmission Co., Anderson, S. C. The pulleys are shipped assembled with sealed ball bearings and ground studs. They are said to be designed for easy installation.

The ball-bearing pulleys are said to eliminate trouble caused by worn pulleys—lost motion, ring-rail dwell, and tangled yarn. Seabrook pulleys are said to have the advantages of turning freely, needing no lubrication, and lasting for years without stud or pulley wear.

Circle T-12 on Reader-Service Card

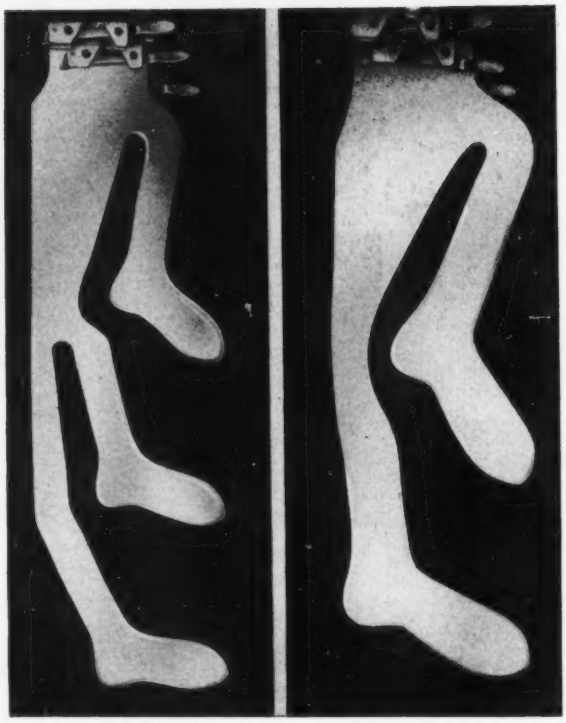
Hardened-Plastic Bobbins For All Kinds of Weaving



PHENOL-RESIN BOBBINS have been developed by Lamplas Co., Via F. Cavallotti 32, Monza, Italy. Features of the heat-hardened plastic bobbins are: (1) the plastic improves with use as it becomes seasoned, (2) the bobbins never lose their shape even if soaked in water, (3) they have no metallic reinforcements, and (4) their measuremnts are precise and are said not to vary. Bobbins are available for all types of weaving. Cost varies from about 10 to 14¢ per bobbin f.o.b. Genoa.

Circle T-13 on Reader-Service Card

Multiple-Tier Leg Forms Increase Boarding Production



MULTIPLE-TIER LEG FORMS, triple tier for children's socks (left) and double tier for men's socks (right), are used with Turbo's AD-48 machine. Sizes are easy to change with the simple clamps.

Multiple-tier aluminum leg forms for nylon and Helanca socks have been developed by Turbo Machine Co., Lansdale, Pa., for use with its precision boarding and preboarding equipment. Although higher in cost, the multiple tier forms result in increased production.

Triple-tier forms for children's socks are said to offer a production of 350 dozen pairs in 8 hrs. when used in the Turbo AD-48 machine. Double-tier forms for men's socks offer increased production in a corresponding ratio to setting on single forms.

In mills now using Turbo AD-48 machines, nothing is changed but the forms. Cabinet temperatures are dial-set, and timing is automatic. One group of 24 forms moves into the cabinet for processing, while the other group of 24 forms moves out for undressing.

A clamp holds each leg form in position, and time lost in changing sizes is kept to a minimum. The forms are made in one piece from aluminum sheet, shaped to individual mill requirements, with grooves and beveled edges as desired. They are said to have a glass-smooth finish with no rough edges to damage fabric.

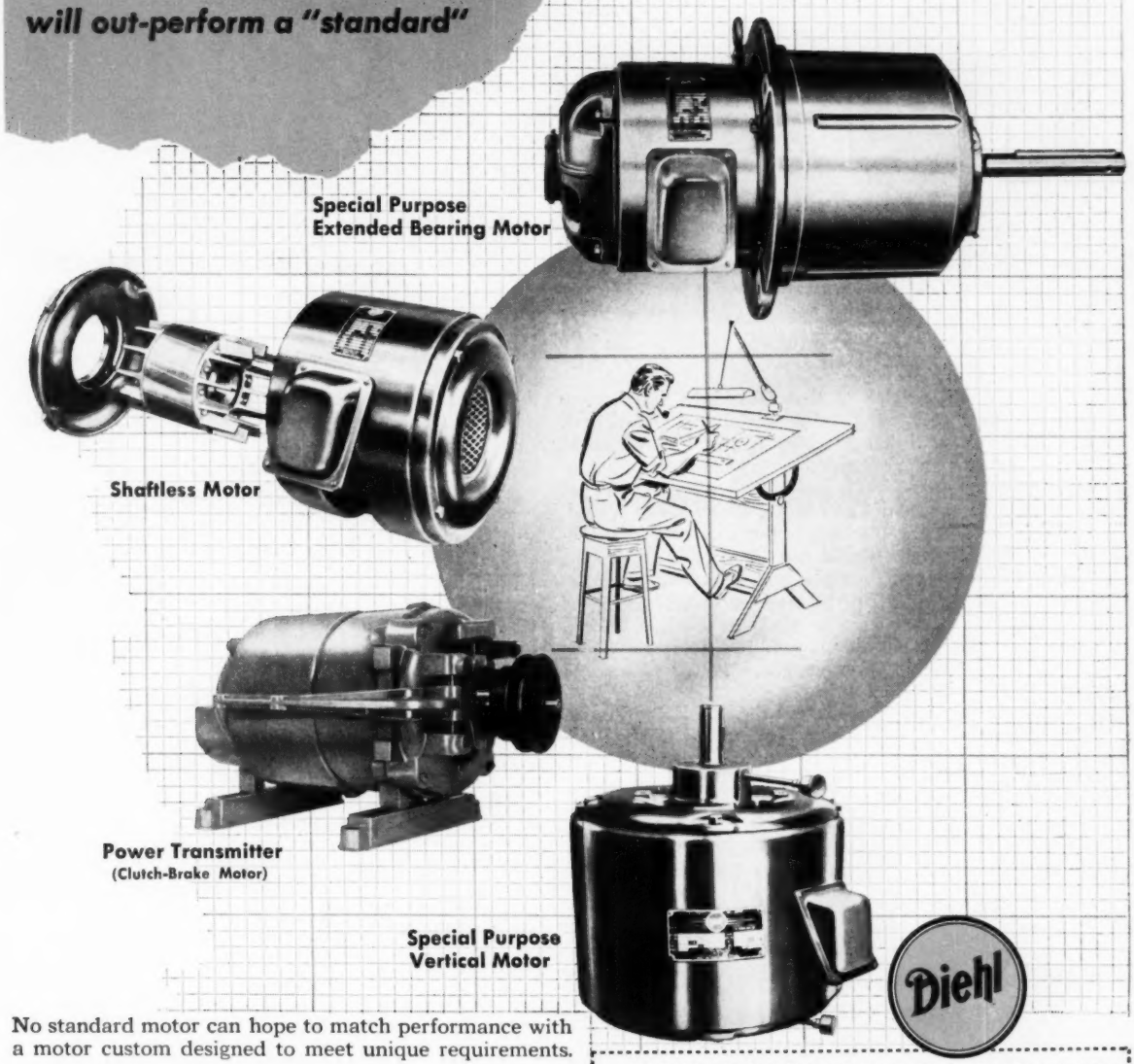
Circle T-14 on Reader-Service Card

Correction

Our attention has been called to a misinterpretation in the description of the Ira L. Griffin & Sons Size Applicator [TW, May, '54, p. 113]. Instead of "It is said to prevent the congealing of size on exhaust fans, hoods, and ductwork," the description should have stated that the Size Applicator (1) eliminates congealing of size and (2) eliminates exhaust fans, hoods, and ductwork. Slasher cloth changes and the dilution and breaking down of size are also eliminated, as reported in May.

a motor designed for its job

will out-perform a "standard"



No standard motor can hope to match performance with a motor custom designed to meet unique requirements.

That's why Diehl lays so much emphasis on custom construction . . . why, through the years, it has geared its abilities and its facilities, its design, engineering and manufacturing functions for maximum cooperation with its customers . . . whatever the application.

DIEHL custom-tailored motors can:

Cut costs • Save space • Reduce weight • Improve safety
Simplify design • Speed production • Improve appearance

When you want a fast, thorough answer to an unusual motor problem it will pay you to consult Diehl. Name your conditions . . . Diehl will design and build to match.

DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Please send me the following bulletins:

☐ New Type "D" Motor Bulletin No. TW-3304
☐ Consolidated Catalog & Price TW-3310

Name_____

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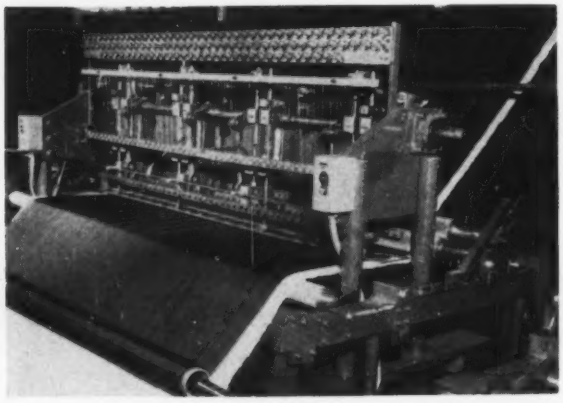
INTEGRAL AND FRACTIONAL HORSEPOWER MOTORS ARE AVAILABLE IN A WIDE RANGE OF TYPES AND SIZES

 For more information, write direct or use Reader Service post card.

New Quilting Machine Makes Four-Way Designs



QUILTING MACHINE is in operation at American Quilting Co., 209 E. 138th St., New York 51, N. Y. This machine has 48 needles, 1 in. apart. The feature of the All Stitch machine is a four-direction design movement at an optimum stitch density of 1,000 to 2,000 stitches per yard per needle.

A new quilting machine that is said to fill the gap between embroidery and quilting operations has been developed by All Stitch Machine Corp., 175 5th Ave., New York 10, N. Y. Optimum operation of the new machine is between 1,000 and 2,000 stitches per yard per needle. The machine can be made as wide as desired.

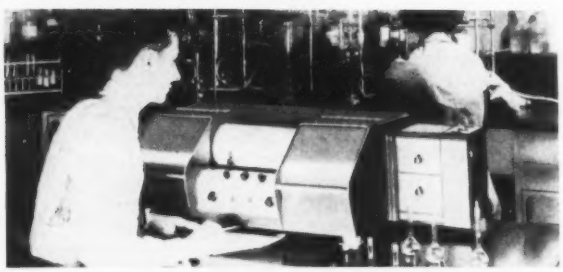
The feature of the machine is the unlimited possibilities for designs; the material can be moved in all four directions: backwards, forwards, and sideways. The design movement is controlled by cams, and the cams can be easily changed to change the design. Designs already worked out for the machine, in addition to staple goods, include figure-8 and flower designs. Patterns down to ¼-in. areas can be made.

Linear production depends on the stitch movement. Stitching speed is 300 cycles per minute; with 1,000 stitches per yard per needle, linear production would be 15 to 18 yds. per min.

Production is continuous with no waste on the side. Thread changing is made easy with a simple lock on the shuttle holders, and start-stop is controlled from a push button. The machine is driven by a 1-hp. motor.

Circle T-15 on Reader-Service Card

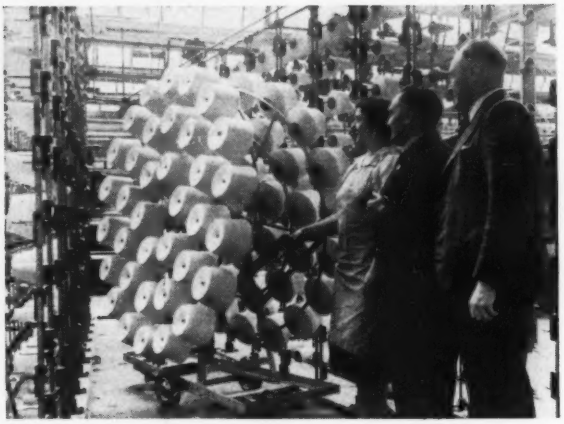
Automatic Color Analysis



WARREN SPECTRACORD automatically scans and records the entire visible or ultraviolet spectrum in less than a minute. Available from Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa., the instrument can be used to check 170 samples in an 8-hr. day, with an hour off for answering the telephone.

Circle T-16 on Reader-Service Card

Cones Are Rotated For Easy Creeling



ROTATING-WHEEL CONE TRUCK is being manufactured by D. Howarth and Sons Ltd., Rochdale, England. The truck was developed by Harry Holt, general manager of John Pilling's Norwich Street Mill of Joshua Hoyle Ltd. (right) and Stephen Clegg (center) of D. Howarth. This model holds 72 3¾-lb. cones. The wheel is turned to bring the yarn into position for creeling from the top or bottom. The cone holders are mounted at an angle. Creeling time is said to be reduced up to 25%.

Circle T-17 on Reader-Service Card

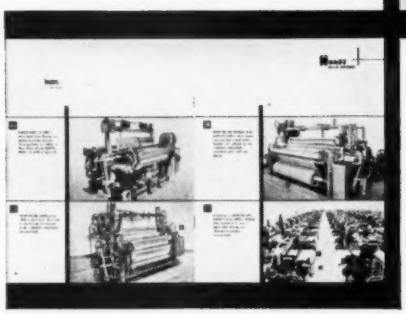
Cleaning Light Fixtures

TWO-MAN TEAM with cleaning tank is said to be best procedure for cleaning fluorescent fixtures. The fluorescent-fixture cleaning tank, made by C & S Lighting Maintenance Co., 6116½ St. Clair Ave., Cleveland 3, Ohio, has a wash tank that holds 4- and 5-ft. louvers, 17 ins. wide, a 1,000- to 2,000-w. heating element, a separate rinse tank, removable drain racks, a large shelf for cleaning materials, and filling and drain hoses. If you have over 500 fixtures, the tank is said to pay for itself in a year.

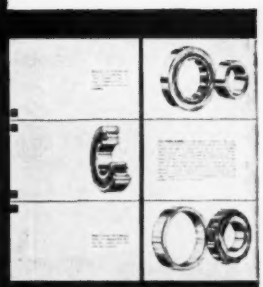
Circle T-18 on Reader-Service Card

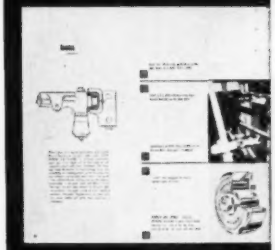
Announcing

the new Hyatt roller bearing textile bulletin...



"MORE AND BETTER TEXTILE PRODUCTION"





This 36-page booklet illustrates the latest uses of roller bearings in textile equipment. It shows where and how you can apply roller bearings to increase your mill production.

It shows how roller bearings are used:

IN CARDING EQUIPMENT—to help maintain cylinder and lickerin settings; to permit smooth rotation of the workers and strippers.

IN DRAWING AND ROVING FRAMES—to prevent top rolls from binding; to permit ease of operation of back weight sheaves and lifter arms.

IN TWISTING AND SPINNING FRAMES—to get smoother cylinder operation; to allow for greater spindle speeds and package sizes.

IN LOOMS—to prevent wear of principal shafts; to eliminate oil splatter; and to decrease loom power requirements.

IN FINISHING EQUIPMENT—to retain bearing lubricants at all temperatures; to prevent oil damage to finished fabrics.

IN MOTORS—to prolong motor life; to maintain the gap between rotor and stator.

All of these applications—and many others covered in the bulletin—can help you get "more and better textile production".

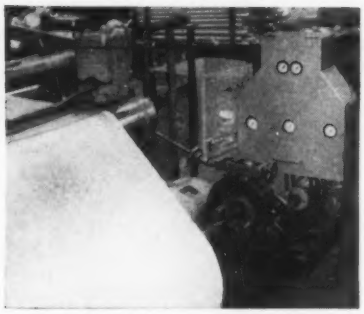
Requests for this new textile bulletin should be addressed to Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

 For more information, write direct or use Reader Service post card.

Automatic Edge Guide Works from Pressure



FRANKEL AUTOMATIC EDGE GUIDE works through the control and power unit (right) from a pneumatic sensing device that detects misalignment in relation to the pressure nozzles. Available from W. T. Howald Co., 182 Sigourney St., Brooklyn 31, N. Y., the edge guide has no moving parts and does not touch the material; bouncing and tension variations do not affect accuracy. At 750 ft. per min., an accuracy of ±0.012 in. on webs with a wander of ±⅛ in. for 100 ins. of web length can be achieved.

Circle T-19 on Reader-Service Card

Stacking Rack for Carpets or Warp Beams

STAK RAK is the name given to this device for stacking rolls. It is manufactured by Chicago Tramrail Corp., 4000 W. Washington Blvd., Chicago 24, Ill., basically for the carpet industry; but different arms can be attached to handle warp beams. The unit is made of structural members, and the hoisting power comes from an electrical motor plugged in at various intervals. A feature is the eight-wheel base; the unit is raised to the right-angle set of wheels by a hand-operated hydraulic pump. In this application, the aisle is 54 ins., lifting height is 10 ft.; and the carpets are up to 15 ft. long and 1,000 lbs.

Circle T-20 on Reader-Service Card

Draper Will Make Teflon-Coated Grates

Draper Corp., Hopedale, Mass., has been licensed to produce the Teflon-coated fork grates developed and patented by Deering, Milliken Research Trust, Pendleton, S. C., but the agreement does not cover making the patented grate by coating used grates.

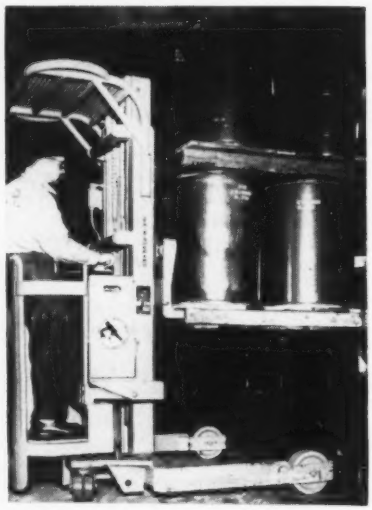
Mill tests with the self-cleaning grate are said to show that cleaning schedules can be cut to one-third or less of their previous rate; in some cases, routine blowing off does the cleaning job.

The grate surface is a special material to which lint, size particles, grease, dirt, and moisture cannot adhere; so troublesome accumulations are avoided. Other results: improved quality is achieved by the elimination of thin places in the cloth, which occur when grates become clogged; and increased loom efficiency results from the drastic reduction in the frequency of stops required for cleaning.

The decrease in grate-cleaning labor costs amounts to as much as $1 per loom month, depending on cloth construction, size content, quality standards, weave-room humidity, and other factors.

Circle T-21 on Reader-Service Card

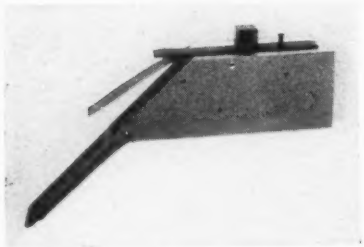
For Narrow-Aisle Work



MODEL M SPACEMASTER is entered from the side of the cab and has a reinforced steel shield to protect the operator during narrow-aisle operation. Made by Lewis-Shepard Products, Inc., Watertown, Mass., the truck has a new electric foot brake that operates when the operator raises his left heel. Available in 2,000- and 3,000-lb. models for high lifting and 4,000-lb. capacities for low lifting, the truck has three forward speeds and a reverse.

Circle T-22 on Reader-Service Card

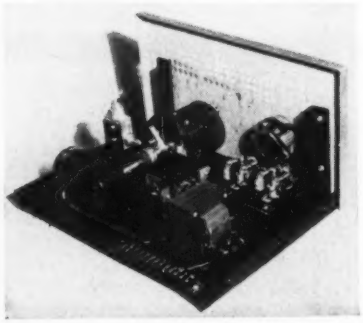
Appearance-Retention Tester



DRAPE-FLEX STIFFNESS TESTER, developed by the Clothing Supply Office of the Navy [TW, May, '54, p. 226], is available from Fabric Development Tests, 185 26th St., Brooklyn 32, N. Y. The device measures how a fabric drapes under its own weight and how stiff it feels when flexed in the hand. It is recommended for use in fabric development, quality control, and acceptance testing.

Circle T-23 on Reader-Service Card

Tension Controlled by Electromagnetic Brake



TENSION-CONTROL DEVICE works through an electromagnetic brake or clutch, controlled by changes in voltage resulting from load changes on a dancer arm. The electromagnetic brake or clutch operates in an oil bath, which has a tension-regulating shearing effect.

The Frankel automatic tension control, made by W. T. Howald Co., 182 Sigourney St., Brooklyn 31, N. Y., is said to be applicable to slashing, beaming, knitting, weaving, dyeing, printing, coating, and laminating. It works with yarn or fabric. It operates through a third roll connected to a lever called a dancer arm.

As the dancer arm is forced up or down by changes in tension, a voltage control is actuated; and connections are automatically made to the set tension without hunting. The adjusted low-voltage d.c. current is fed into an oil-immersed electromagnetic brake or clutch, depending on whether the application is winding or unwinding.

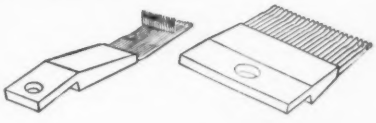
CONTINUED ON PAGE 196

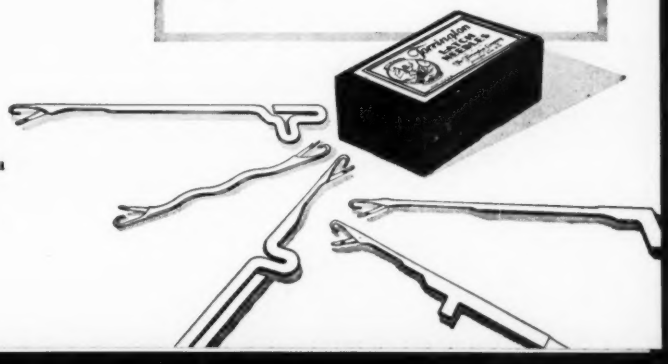
Background for quality knitting...

It is no coincidence that many leading mills, famous for the quality of their knitting, are long-time users of Torrington Needles. Why not give your knitting the benefit of Torrington precision-machined quality.

A special feature of Torrington needle service is the ease and speed with which needle requirements can be met promptly from ten conveniently located offices throughout the U.S.A. and Canada.

For Raschel and Tricot Machines, Torrington now supplies a complete line of leaded needle units to meet all requirements. Consult our nearest office for full information.





THE TORRINGTON COMPANY
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NEW *Dyes* AND *Chemicals*

Yellowish-Green Dye for Cellulose Fibers

Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y., announces the addition of Solophenyl Brilliant Green 5GL to its line of direct dyes. According to the producer, the dye produces bright yellowish-green shades that have good lightfastness. The color is said to be well adapted for aftertreatment with copper and acetic acid, Gycofix 67, and Gycofix 67 in conjunction with a TBL finish.

Circle D-1 on Reader-Service Card

Golden-Yellow Dye for Acetate and Nylon

Geigy Dyestuffs Div., Giegy Chemical Corp., recently announced the addition of Setacyl Yellow 3RN to its line of colors. This dye produces clear, golden-yellow shades on acetate and nylon, it is said; and in addition to excellent lightfastness and good washfastness, it has good strength and shade build-up on nylon.

According to the producer, the color produces similar shades on nylon and acetate, permits low-temperature dyeing, has excellent dispersibility, and is suitable for either box or jig dyeing. The color also has excellent lightfastness on Dacron. It is recommended for dyeing yarn or piece goods requiring high fastness to light.

Circle D-2 on Reader-Service Card

Orange Dye for Cotton and Rayon

Diphenyl Fast Orange GRW, a direct dye with unusual wetfastness for this type of dyestuff, has been announced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Producing bright shades of orange on cotton and rayon, the dye is said to have good fastness to washing and perspiration.

According to the producer, it is suitable for the economical dyeing of dischargeable ground shades on rayon dress fabrics and can be used in many instances instead of diazotized and developed oranges.

Circle D-3 on Reader-Service Card

Yellow Dye for Newer Synthetic Fibers

Celliton Fast Yellow 4 RLA Conc. New CF was recently announced by General Dyestuff Corp., New York, N. Y.

This straight disperse (acetate) dyestuff is recommended by the producer for dyeing lightfast shades on acetate and for dyeing colors with good fastness on nylon, Dacron, Orlon 42, Dynel, Acrilan, and X-51 acrylic fiber. The dye shows improved affinity for acetate at 160° F., it is said, and is therefore satisfactory for application on acetate piece goods in open jigs.

Circle D-4 on Reader-Service Card

Violet Dye for Nylon and Wool

A dye that produces bright shades of violet on nylon and wool has been announced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Known as Polar Brilliant Violet BL, this dye has excellent lightfastness and good general fastness properties. According to the producer, this material draws well from a neutral bath on both nylon and wool and exhausts almost completely onto either fiber when a small amount of acetic acid is added to the bath.

Circle D-5 on Reader-Service Card

Dispersion of Carbon Black In Nylon Resin

Acheson Dispersed Pigments Co., Acheson Industries, Inc., Philadelphia, Pa., announces the development of a masterbatch dispersion of carbon black in nylon.

The new material is said to be a true internal dispersion of black in nylon resin and not to be confused with the nylon coloring materials that are mechanical blends of the two finely powdered ingredients.

The new nylon dispersion, temporarily designated 926XNY16, is available as a dry granulation in concentrations up to 20%. Other colored pigments of this type are also available.

Circle D-6 on Reader-Service Card

Reddish-Violet Dye for Cotton and Rayon

Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y., announces the addition of Cuprophenyl Violet 3RL to its Cuprophenyl line. Bright, reddish shades of violet with excellent fastness to light and good fastness to washing are produced on cotton and rayon with Cuprophenyl Violet 3RL, it is said.

According to the producer, this dye has excellent resistance to sunlight after urea-formaldehyde resin finishing and excellent fastness to perspiration, water, and hot wet-pressing. It is level dyeing, has good solubility, and is not salt sensitive.

Circle D-7 on Reader-Service Card

Wetting Agent for Many Operations

Monawet MO, a wetting agent, has been announced by Chemical Div., Mona Industries, Inc., Paterson, N. J. The product is the sodium salt of the di-(2-ethylhexyl)-sulfosuccinic acid, a compound known for its outstanding wetting and penetrating power. The usefulness of the product is important in the preparation of dispersions, emulsions, and similar operations. For some applications, as little as 0.0001% of active material will do a perfect job, it is said.

Circle D-8 on Reader-Service Card

Two New Shades for Wool, Nylon and Silk

Geigy Dyestuffs, New York, N. Y., announces two additions to its line of Irgalan colors.

Irgalan Red 3G produces yellowish shades of red on wool, nylon, silk, and protein fibers. According to the producer, Irgalan Red 3G has good fastness to light and washing and is recommended for use on wool piece goods, yarn, raw stock, and slubbing.

Irgalan Brown Violet DL produces a shade on wool, nylon, and pure silk that is decidedly redder in artificial light.

Circle D-9 on Reader-Service Card

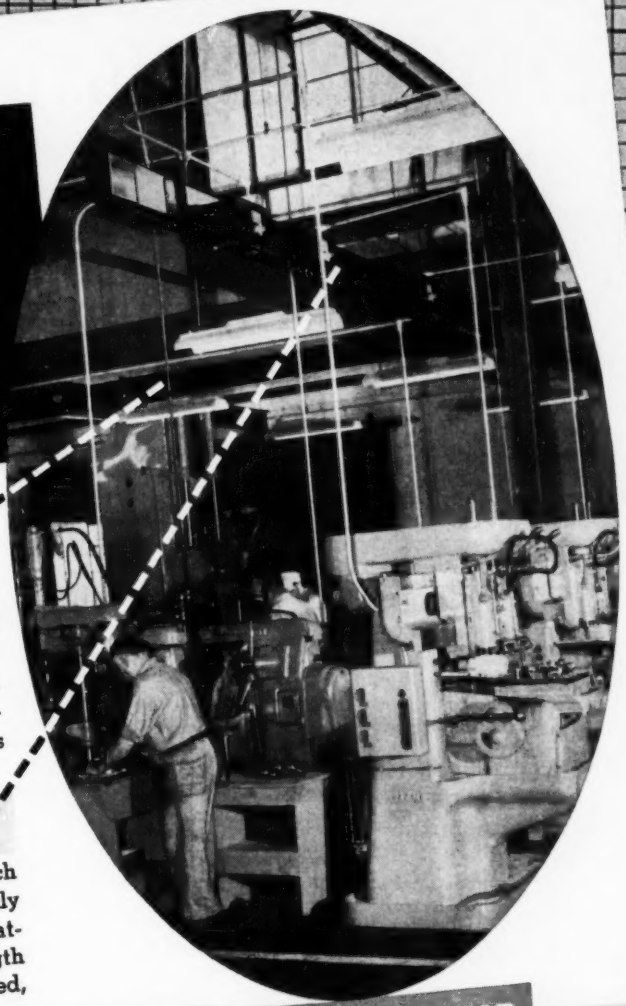
Silicone Finish Applied to Woolens and Worsteds

Silicone finishes are being applied to woolens and worsteds, according to an announcement by Dow Corning Corp., Midland, Mich. Used for some time on synthetics and blends, the silicone finish is said to impart durable water repellency, stain resistance, and crease retention; and it is also said to improve the hand and wear life of woolens and worsteds. Pacific Mills is the first mill to bring out woolen and worsted fabrics treated with a silicone finish, which Pacific calls Covera.

Applying the silicone finish to woolens and worsteds is similar to the procedure used on blends and synthetics. Equipment needed includes a pad, a loop dryer, and a curing unit. After all fibers reach 250° F., curing time is 3 or 4 mins.

for time-saving, money-saving

POWER DISTRIBUTION



SQUARE D FEED-IN DUCT

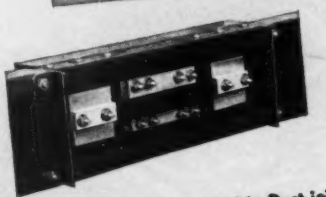
is the most efficient way to transmit large amounts of power. It provides the lowest known voltage drop—only 1.8 volts per 1000 amperes per 100 feet.

Exclusive design requires no ventilation—permits a totally enclosed, compact, dust-excluding enclosure. Rigid construction provides high resistance to heavy electrical stresses.

SQUARE D PLUG-IN DUCT

provides flexible power distribution for branch circuits. Machinery can be rearranged quickly at minimum cost. Plug-in units can be attached at frequent intervals along the length of the duct, providing power where it's needed, when it's needed.

BUSWAY FEATURES PROVE DESIGN LEADERSHIP



NEW JOINT DESIGN. Feed-in Duct joint design saves installation time and reduces maintenance cost. Duct ends are identical—unnecessary to select mating ends before positioning or hanging duct sections. Outward-facing, pre-installed bolts permit rapid assembly and easy maintenance.

ROUND BUS BARS for Plug-in Duct provide greater mechanical strength and resistance to short-circuit stresses. Circuit breaker or fusible type plug-in units are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure.

FLEXIBLE CONNECTORS of laminated copper join bus bars between sections—permit proper alignment, insure tight joints and provide for expansion and contraction at Plug-in duct joints. All bolt heads face outward for greater accessibility.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

THIS IS NO. 105 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

MICRO-SET SLUB-CATCHER CLEARS YARNS OF SOFT TORPEDO SLUBS

Soft torpedo slubs are inherent in long staple synthetics and blended yarns. Since a majority of these yarns are used in suitings, dress goods or fine fabrics in which quality is of paramount importance, the yarn must be as free as possible from imperfections.

A peculiarity of the soft torpedo slub is its ability to squeeze by a conventional fixed blade slub-catcher. As a result, it has become a matter of grave concern to many mills producing quality yarn for when they set their regular fixed blade slub-catchers close enough to catch this slub they find that the blade is scuffing the yarn. On the other hand, at normal openings the slub passes through into the package.

Removes Many Imperfections

In an effort to overcome this problem, Universal engineers have developed the Micro-Set Slub-Catcher. Mills using it report that it is far superior to any slub-catcher they have tried for effective slubbing.

While the Micro-Set Slub-Catcher was designed primarily to clear yarns of soft torpedo slubs, it has also been found very satisfactory at clearing yarns of such imperfections as hard slubs, gouts, piecings and double spinning.

Features Special Blade

Unlike conventional slub-catchers, the Micro-Set utilizes a sensitive spring tempered steel blade. This blade has a toggle action that makes it extremely sensitive. When any imperfection in the yarn touches the blade, it is carried back by the blade against the slub-catcher anvil where it is trapped.

A calibrated dial provides a means of setting the blade to detect even the slightest imperfections and can also be used to check the setting visually.

The Micro-Set Slub-Catcher can be set quickly to any opening from .001″ to .080″.

The following four steps tell how to make the setting:

1. Loosen the locking screw A (fig. 1) just a little.
2. Turn the dial *counter-clockwise* until the blade touches the anvil and the indicator points to "0" on the dial.
3. Turn the dial clockwise until the indicator points to the desired opening.
4. Tighten the locking screw.

When the locking screw is tight there will be some back lash in the dial but this does not affect the accuracy of the setting. However, to check the slub-catcher visually to see that it is set to the proper opening, the dial should be turned clockwise until it is tight. The number under the pointer will then indicate the opening to which the slub-catcher is adjusted.

For openings greater than .030″, the dial indications can be computed to give the comparable blade opening.

Fig. 1 Setting calibrated dial. First step, loosening locking screw (A)

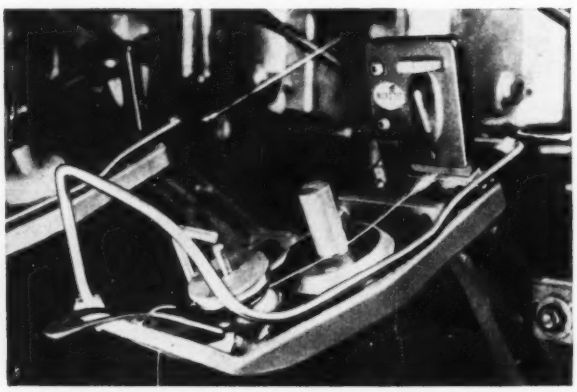


Fig. 2 Micro-Set Slub-Catcher in action

July 1954 — 23.3.12

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

LEESONA

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA LOS ANGELES MONTREAL and HAMILTON

LETTERS FROM READERS

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD
330 W. 42nd St., New York 36, N. Y.

THE OVERSEER AND QUALITY (CONTINUED)

Dear Editor:

I have just read the letter by N. H. Pomfret in *Round Table* in the May issue of TEXTILE WORLD. Having been second hand and overseer of production departments and now head of a department that deals with quality control, I feel that I can speak with at least a small degree of authority on the subject of the relation of the overseer to the quality control department. (For brevity, I shall call it the laboratory.)

I have never considered that the laboratory controlled quality but rather that the laboratory was an aid to the overseer in watching his quality. Suppose, for example, that the overseer of carding has 200 cards, with complementary pickers, drawing frames, slubbers, and roving frames. Obviously, he cannot watch the variation in weight and linear regularity in the product from each of these machines, even with a good staff of second hands and section men. In fact, he would not have the tools with which to measure some of these quality characteristics. The same could be said for the overseer of spinning.

The laboratory, however, could make the necessary tests and report the results to the overseer. He could, in turn, have the machine or machines checked, make necessary corrections, and request a recheck. I agree that if the overseer is indifferent to quality, his department will turn out a lot of bad work even with a good laboratory staff; but if they will both work together, the quality will most certainly be improved.

H. L. PRATT

West Columbia, S. C.

"CLEAN FLOORS MAKE IT SPIN BETTER"

Dear Editor:

The cleanliness of spinning frames has an important influence on the outlook of the operators and the quality of the yarn produced. Spinners usually have a definite feeling of exhilaration after the machines have been completely cleaned.

There is a saying, "Clean floors make it spin better." We are prepared for scientific people (and grammarians) to tell us that this statement is not true. But all the same, we shall continue to keep the floor as clean as possible and let its appearance deceive us.

N. H. POMFRET

Hamilton, Ont.

FIT THE FOREMAN TO HIS JOB

Dear Editor:

Mill management will go along with the theory that it is most profitable to put a workman at the tasks where he fits in most naturally and easily. But while admitting that not all employees will do equally well with all jobs, management may be reluctant to use a similar line of reasoning in selecting for each supervisor the type of group with which he will be most successful.

Groups within the mill vary widely in age, experience, education, ability, and so on. Yet even a most elementary analysis of the group may show that some characteristics predominate. Matching these findings against the already known prefer-

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I can reach my executives anywhere—general office, card room, weave room, shipping department, O'Malley's Bar and Grill——"

ences and capabilities of foremen in the mill can be useful in placement of these men for their greatest usefulness.

Undoubtedly most supervisors after a long period will learn to handle the problems of nearly any group. It would seriously limit the opportunities for mill progress and personal advancement to type a foreman so he handled only one or two major classifications of workers. But when a new foreman takes over more or less unfamiliar duties, management would benefit from studies indicating which group he would be most at ease with while he learns the new job.

Later there will be plenty of chance to move him around for wider experience. However, up-to-date breakdowns of various groups can be a ready means of giving the foreman his initial training among workers where clashes of personality and similar factors will be at a minimum.

GEORGE M. DODSON

Harrisburg, Pa.

CORRECTION

Dear Editor:

Congratulations on your excellent Atlantic City Show report in your June issue.

On page 102 you picture the Maag selvage-printing machine that we demonstrated. In the description of the machine, you mention a speed of 65 inches per minute. Actually, the machine's speed is 65 yards per minute.

We feel that you will want to call this correction to your readers' attention.

ERIC SELIGMANN

Trumeter Co.
New York, N. Y.

Workers Are Changing

Workers have been changing, and supervisors have to keep up with changes in attitudes. As one superintendent expressed it, "Workers used to expect bossiness, but now they won't put up with it. Some people think that textile workers aren't very smart; but they're plenty smart in their own environment, and don't think they're not."

The environment of mill people is broadening. Television, for instance, is having a tremendous effect on the attitudes of mill people. If you need a reminder that your people are changing, take a look at the television antennas around the community.

What can you do about it? You have to modernize your own attitude: Workers want respect; so all you have to do is to respect them. Sounds simple, but remember that respect is not a human-relations technique. It's a state of mind.

Questions AND Answers

Yarn Contraction Can Be Calculated This Way

Technical Editor:

How can I calculate the twist take-up in a yarn to find the original yarn number? For example: A 40s yarn has 25 tpi. What is the original yarn number? (9795)

A formula to fit the problem must be based on the contraction results of a 40s yarn at 25 tpi. This yarn has a twist multiplier of

$$\frac{25}{\sqrt{40}} = 3.95$$

Several finer and coarser numbers than 40s, spun with 3.95 TM, would have to be tested for contraction.

The same range of numbers would then have to be spun at, say, 3.25 TM and also at 4.5 TM.

The results from the three categories of twist carefully plotted on a graph would show the respective curves involved. The curve analysis would have to be correlated for a formula containing the twist multiplier and the yarn number. This procedure means a lot of work.

The mid-November, 1953, issue of TEXTILE WORLD, p. 21, has a chart for single-yarn twist contraction. This chart shows that the 40s yarn spun at 3.95 TM would have a contraction of about 5.5%. This means that the 40s in question is only 94.5% as long as its original number. According to the chart we have:

$$\begin{aligned} 94.5\% \text{ of original length} &= 40\text{s} \\ 100\% \text{ of original length} &= \frac{40 \times 100}{94.5} \\ &= 42.3 \end{aligned}$$

The untwisted strand equivalent to 42.3s yarn after a contraction of 5.5% will result in a 40s yarn when twisted with 3.95 TM.

The formula for the chart is not given but it can be calculated as follows:

$$\% \text{ contraction} = 2.67 \frac{\text{tpi.}}{\sqrt{N}} - 5$$

Since % contraction =

$$100\left(1 - \frac{\text{contracted length (L)}}{\text{original length (L}^1\text{)}}\right)$$

we have

$$100\left(1 - \frac{L}{L^1}\right) = 2.67 \frac{\text{tpi.}}{\sqrt{N}} - 5$$

Since L = contracted yarn number (N)
and L^1 = original yarn number (N^1)
we have

$$100\left(1 - \frac{N}{N^1}\right) = 2.67 \frac{\text{tpi.}}{\sqrt{N}} - 5$$

This equation solved to the original number is

$$N^1 = \frac{100N}{105 - 2.67 \times \text{TM}}$$

In the case of the reader's example:

$$N^1 = \frac{100 \times 40}{105 - 2.67 \times 3.95} = 42.3$$

If the example were: What would be the contracted number of an untwisted strand of 42.3s yarn with 25 tpi? The answer would be:

$$\begin{aligned} N &= \frac{N^1 \times (105 - 2.67 \times \text{TM})}{100} \\ &= \frac{42.3(105 - 2.67 \times 3.95)}{100} \\ &= 40\text{s} \end{aligned}$$

Closer Roll Settings Will Help This Spinner

Technical Editor:

We have trouble with defects in our filling yarn. These show plainly in our finished cloth. I am enclosing samples of our cotton, picker lap, cloth from the loom, and finished cloth. I am also enclosing details of our organization from the picker to the spinning. Can you assist me in correcting these defects? (9794)

The organization appears suitable for the stock and yarn being made, with the exception of the front to second roll setting on your controlled-draft drawing. The setting of $1\frac{13}{16}$ ins. is too wide. A setting of $\frac{1}{8}$ in. over the length of the staple is recommended.

Filling yarn removed from the cloth samples shows the defects are much more apparent in the finished cloth than in the cloth direct from the loom. The starch or other agents used in finishing seem to soak into these thicker places in the yarn and make them more prominent.

The collection of fibers in the thick places in the yarn from the gray cloth appear to be loose on the surface of the yarn rather than being twisted in and held into the body of the yarn. Many of these fiber bunches have been rolled into small buttons in the process of removing the yarn from the cloth and winding it on the inspection card. The adhesive agents, used in finishing, prevent the movement of these fibers and hold them securely to the surface of the yarn.

The loose and free nature of these fiber bunches indicates that they are

caused by some type of waste formed on the yarn in the spinning process. Make a thorough check of fiber collections on travelers, ring rails, and other sources of fly waste.

Reduce Streaky Dyeing In Worsted Gabardine

Technical Editor:

We've been getting streaks and unevenness in dyeing an all-worsted gabardine. Do you have any suggestions? We prescour, carbonize, and then dye; we scour at 6° twaddle. (9797)

Your trouble perhaps started in spinning, but that doesn't solve your problem.

It's best to use chrome colors with bottom chrome dyeing. Use a longer process before dyeing to soften up thick and thin places.

Neutralizing with soda ash leaves marks because soda ash forms carbon dioxide with the sulfuric acid bath. So carbonize after dyeing.

Acidify with a little formic or acetic acid, and take out to 6.4 to 6.5° twaddle in the scourer. You will never get a full neutral at 6° twaddle.

Metallized dyes are second best. With metallized dyes, stay slightly on the acid side. Use 6 to 8% sulfuric acid depending on the number of pieces. Keep the bath at pH 2; or with agents, keep it at 2.6 or 2.7.

The type of material determines when you put in the acid. Some mills put all acid in before the dyes. Use up to 5% glauber's salt with pastel shades.

To neutralize after dyeing, use a little ammonia in the rinse water, but too much ammonia will give streaks.

Another tip is to keep check on your plant water. Plant water varies in pH, and every dyehouse should be pH conscious. One mill that didn't check its water finally located its trouble: the city had doubled the amount of alum it was using in water processing.

Also remember that some of the newer dyehouse chemicals are different chemicals; so be sure not to mix different chemical types.

Knitting Mills Use Various Cleaning Installations

Technical Editor:

What type of equipment do circular knitting mills use to keep lint from accumulating on the machines? (9789)

Several types of equipment are in use. One mill fixed a regular-type four-bladed fan to the ceiling above each knitting machine to direct a current of air down over the machine.

A mill with rotating-head machines fixed two light-metal fins to the top stop motion. The fins or blades are bent downward to direct lint away from the yarn cones.

Another mill installed a monorail above the knitting-machine alleys. The monorail track winds its way through the knitting room, and the cleaner that traverses the track has separate fans for up and down cleaning.

A special device operating from compressed-air supply can keep the cam sections of revolving-head machines clean.

Use Reverse Warp Wind To Reduce Fog Marks

Technical Editor:

Every bobbin in our spinning mill gets dirty when the weather is foggy. Our spinning room is conditioned from a central station.

We've tried cleaning the rings but find that the only improvement is obtained by reducing the diameter of our bobbins. This method means more work and smaller bobbins and is not entirely satisfactory.

What causes this fog marking and how can it be prevented? (9792)

Dirt particles in the air attach themselves more readily and adhere more securely to the yarn in process when the outside weather condition is foggy. A well-controlled central-station method of air conditioning equipped with air washers or filters should prevent any dirt-contaminated air from getting into the spinning room. No air-conditioning system can be truly effective if untreated outside air is permitted to enter through open windows or doors.

Cleaning the rings and reducing the size of the bobbins may prevent a part of this dirt accumulation; but it may be wise to extend this cleaning to the travelers, ring rails, and other parts of the frame that could be sources of dirt on the yarn.

Some mills that have yarn-soil trouble have minimized the effects by using a reverse warp wind on their spinning frames. With this type of wind, the first traverse on the bare bobbin is the shortest. Each successive traverse is made slightly longer and covers up entirely each preceding layer of yarn on the bobbin. This means that no part of the yarn is exposed for any great length of time to the conditions (whatever they are) that cause soiled yarn. The lower ends of regular filling-wound bobbins and both ends of the taper on regular warp-wind bobbins usually show the greatest effects of yarn soil because they are exposed for a longer time.

Lisle Is Plied Cotton Yarn

Technical Editor:

What is the definition of "lisle," and can it be made one or two ply? (9793)

A lisle yarn is a hard-twisted, fine, combed cotton yarn that has been gassed. It is usually a two-ply yarn, sometimes a three or four ply yarn, but never a singles yarn.

Lisle was frequently used in the hosiery industry for splicing purposes, but little has been used since nylon was introduced.

Cut-Presser Tricot Designing Requires Different Rules

Technical Editor:

How are cut-presser tricot designs made? (9796)

The basic rules of tricot designing outlined in TEXTILE WORLD, Oct. 1953, p. 108, can be followed with the exception of the rule related to each needle receiving a yarn.

It is possible to make some courses without certain needles receiving laps. These needles must be acted upon by the cut presser so that the cut portion contacts the needles that have received no yarn.

Perhaps the most simple cut-presser fabric is single-bar fabric. You can get many variations of this fabric by using different cut pressers and various yarn threadings. Try, for a start, a 4x4 cut presser with the guide bar threaded up 4 in 4 out. Shog the presser in the same manner as the guide bar. Always cover the empty needles with the cut presser.

You can sketch the cut presser at the bottom of your design. Follow the design, course by course, and see that each needle gets a thread or that it is mispressed.

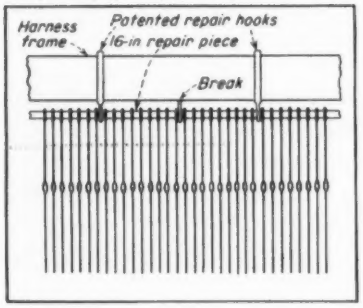
A good idea is to cut out a small cardboard cut presser that will fit your design paper. You can place the cardboard shape over the courses represented by dots and then check for pressed-off loops as you proceed with the design.

It is also possible to make many knop effects on cut-presser machines by using partly full bars and allowing the cut presser to dwell on the same needles for a number of courses.

Kinks and Short-Cuts

Kinks AND SHORT-CUTS

Repair Broken Harness Ribs Quickly With an Old Rib



BROKEN HARNESS RIBS are repaired quickly with a 16-in. section of an old rib. The section of rib is locked in place with two patented hooks.

The ribs on old-type harness frames often break at the anchor hooks. Broken ribs are always hard to replace when a warp is in the loom because every heddle on one harness must be threaded onto the new rib.

We make a temporary repair for broken ribs that lasts until the warp runs out. First, we cut a 16-in. section from an old rib the same size and shape of the broken one.

Then we thread the 16-in. piece of rib through the heddles on one side of the break, extend it through the loose heddles at the break, and pass it through the adjoining heddles on the other side.

When the rib-repair section is in place, we use two patented repair hooks that fit over the harness frames to lock the repair rib to the two broken sections. The hooks are placed about 2 ins. from the ends of the repair rib.

This repair job requires only a few minutes in comparison to the 1 or 2 hrs. required to replace the whole rib. Then, when the pattern is cut out of the loom, the repaired rib is replaced with a new one. *John W. Lewkowicz, Brockton, Mass.*

We Use a Jig To Bore Holes for Harness Hooks

Harness hooks sometimes pull out of harness frames while the frames are in the loom. When this happens, we always drill a new hole for the hook near the pulled-out hole and insert a new hook to be run until the warp is cut out of the loom. Then a new shaft is put in the frame.

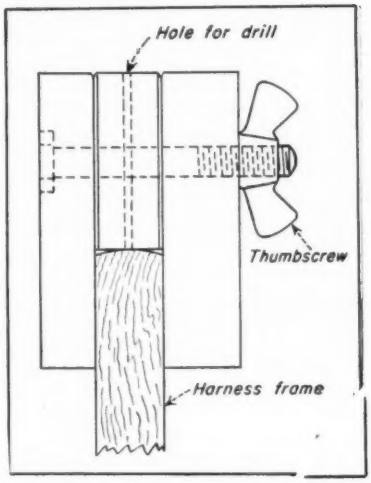
The trouble with drilling a new hole for the hook is that it's hard to drill straight in the cramped position that is necessary with harnesses in the loom. If holes aren't drilled straight, the harness frame is usually split. Another fault is that a hook inserted in a crooked hole rubs another harness and hangs. Then we have broken warp ends.

Sometime ago we had a small hard-steel jig made to enable us to bore holes in frames accurately. The jig is made from three pieces of steel.

A center piece is made from steel 2 ins. long, 1 in. wide, and of slightly smaller thickness than the harness frame. A $\frac{7}{16}$-in. hole is bored through the center of the piece edgewise. Another hole, of $\frac{1}{4}$-in. dia., is bored through the center of the 1-in. surface.

Two other pieces of steel the same length and thickness of the first piece are cut 2 ins. wide. The first piece is laid square with three edges of the other two pieces, and the $\frac{1}{4}$-in. hole is extended through all three pieces.

The $\frac{1}{4}$-in. hole in one of the 2-in. pieces is countersunk to take the head of a $\frac{7}{16}$-in. machine bolt. A bolt is put through the three pieces, and a thumbscrew is added.



ACCURATELY DRILLED HOLES are put in harness frames when this jig is placed over the frame and tightened with the thumbscrew.

When a hole is to be drilled in a harness frame, the jig is placed down over the frame with the $\frac{7}{16}$-in. pilot hole over the place to be drilled; and the thumbscrew is tightened. A drill bit is inserted in the pilot hole; and a straight, true hole is bored.

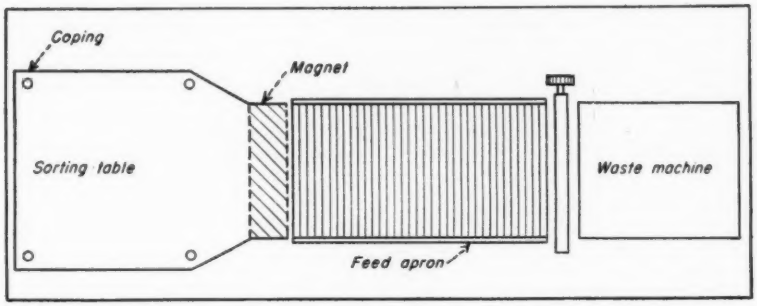
Holes are quickly bored when the jig is used, and when our harnesses are fixed this way our looms run much better. *G. I. Grant, Ontario, Canada.*

Color Identifies Oiling Times

When we installed new winders, we found that there were many parts to be oiled daily, some to be oiled weekly, and others to be oiled monthly.

Our operators were new to the machines; so we marked the points that were to be oiled daily in red and the points to be oiled weekly in blue. The points that are oiled monthly are not marked, and they are attended by our maintenance man. *Dan Singer, Newton, Mass.*

Magnet on Feed Table Cuts Waste-Machine Fires



SORTING TABLE for waste machine incorporates a permanent-type magnet to remove ferrous metal as waste is pushed to the feed apron.

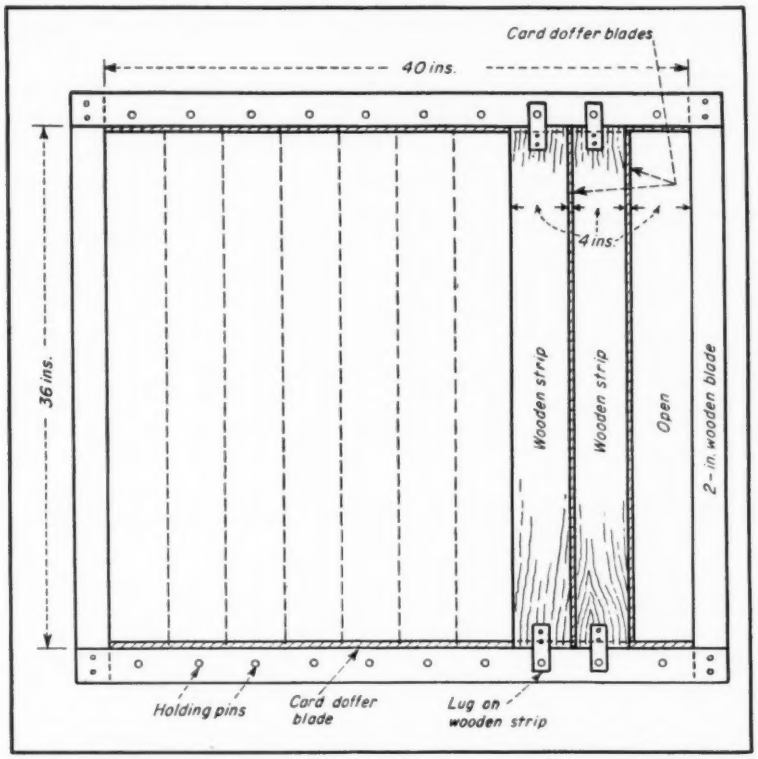
A permanent-type magnet between the feed table and feed apron of our waste machine is helping to reduce the fire hazard at this process.

When we put up our new waste machine, we left room for a sorting or feed table behind the feed apron. The table is the same height as the apron but is a little wider and has coping around it to keep waste off the floor.

The magnet is between the table and apron and catches all ferrous metal as the operator pushes the waste across it to the feed apron.

We believe that the prevention of one fire will pay for the magnet and sorting table. *J. R. Wikle, Charlotte, N. C.*

How We Cut 4-in. Strips Across Our Picker Laps



WOODEN TEMPLATE has a card doffer blade set at top and bottom, and each of the two 4-in. strips has a doffer blade along the bottom of the right side. Strips are moved alternately across the lap and are positioned by pins at top and bottom.

Across-the-width or lateral variation in picker laps can be as important as length variation. Thick places in the laps throw extra work on the working surfaces of the cards. These heavy places do not receive the same amount of carding per unit weight as the lighter or normal portion of the lap, and the quality of the sliver is likely to be inferior.

But lateral variations are much more difficult to detect unless some quick, handy device is available to divide the lap across its width for weighing equal sections.

We made a measuring gate to divide a running yard of picker lap into 10 sections 4 ins. wide. The frame is made with rabbeted corners from 1¼-in. wooden stock 2 ins. wide. A length of card doffer-comb blade is fastened to each inside edge of the frame across the 40-in. width. The teeth of the blade project downward ⅜ in. beyond the lower edge of the frame.

Two wooden strips, the same thickness as the frame, are made 4 ins. wide. A length of card doffer blade is attached to the right side of each 4-in. strip with the teeth projecting downward ⅜ in. below the lower edge of strip. A lug is attached to each end of the strips. The holes in the lugs fit snugly on the holding pins in the frame to hold the strips securely in place.

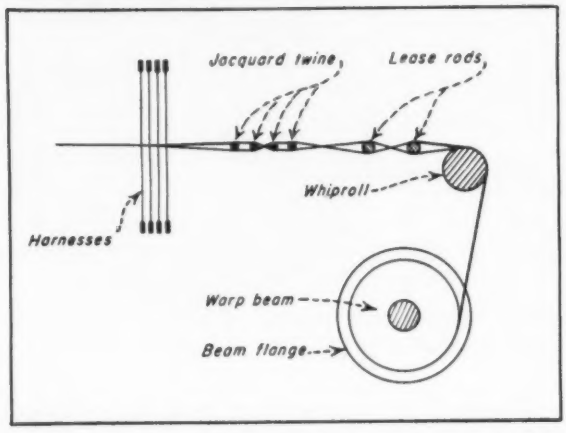
The frame is set on the lap, on the floor or a table, with the inside right and left edges on the frame in line with the lap selvages. The first right-hand vertical 4-in. section is left open. The two 4-in. strips are placed in position on the holding pins in the second and third sections. The exposed lap in the first section is removed by hand and rolled up for weighing. The penetration of the doffer-blade teeth on the top and bottom edges of the frame and on the right edge of the first 4-in. strip makes this removal easy and accurate. The first strip is now removed and placed to the left of the second strip to leave another 4-in. section of lap exposed and ready for removal.

The second strip is now moved to to the left of the adjacent strip and the exposed section of the lap removed. This division into 4-in. strips is continued until the whole lap width has been sectioned off and rolled up ready for weighing.

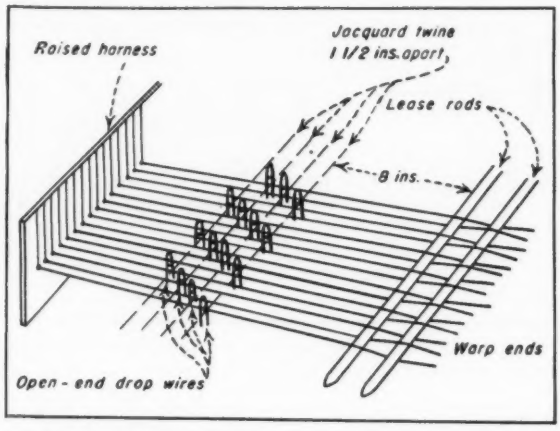
By leaving out the 4-in. wooden strips, you can measure and weigh the full width of 1 yd. of lap. The projecting teeth of the doffer blade make separation of individual yards from the lap easy.

Kinks and Short-Cuts

Put Drop Wires on Warp Ends With This Rapid-Fire Method



JACQUARD TWINES, one for each bank of drop wires, are placed in the warp in end-and-end leases from harnesses on plain weaves.



RAPID-FIRE DROPPING of drop wires is insured by placing them at the intersection of warp ends and jacquard lease twines.

For many months, we had trouble putting open-end drop wires on warp ends in our C&K looms, which have oscillating stop-motion bars. The drop wires were difficult to position and also became tangled with warp ends when the oscillating bars were inserted through the top slots.

We've worked out a new method of applying the drop wires that eliminates these troubles. One-and-one leases are taken in the warp, and a piece of jacquard twine is inserted in each lease as the lease rods are removed. A twine is inserted for each bank of drop wires. The pieces of twine are tied securely to the loom-sides. The back twine is positioned about 8 ins. in front of the first of two lease rods we run in the warp. The other lease twines are approximately 1½ ins. apart.

On plain weaves, we raise alternate harnesses by pulling up dobby jacks and placing the hooks on the dobby knife. Drop wires are added to the ends held in the raised position.

The warp ends to receive drop wires are selected by sliding the lease rods to the left with the left hand. The drop wires are dropped on the ends with the right as the ends are tripped with the left hand. We work from left to right until drop wires have been placed all the way across the warp.

As soon as all drop wires have been dropped, the oscillating bars are inserted. Then the jacquard twines are removed. The twines are saved and used again.

The advantages of this method over the old hit-and-miss method are:

1. The operator knows exactly where to position each drop wire.
2. All drop wires are held firmly in position because they are placed over an intersection of a cord and warp end.
3. Drop wires are placed on a warp much faster.
4. Tedious work is removed from the job, and employees don't tire as easily as before. *G. D. Wilkinson, P. Q., Canada.*

$500 for Best Kink in 1954
$25 for Best Kink in Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know many Kinks and Short-Cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your Kink may win the $500 check for the best Kink of the year or the $25 check for the best Kink of the month; maybe both!

Send in your Kink now. There is always a contest going on. The more good Kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every Kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

Look over the Kinks in this and other issues. You will get ideas you can use as well as inspiration for Kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

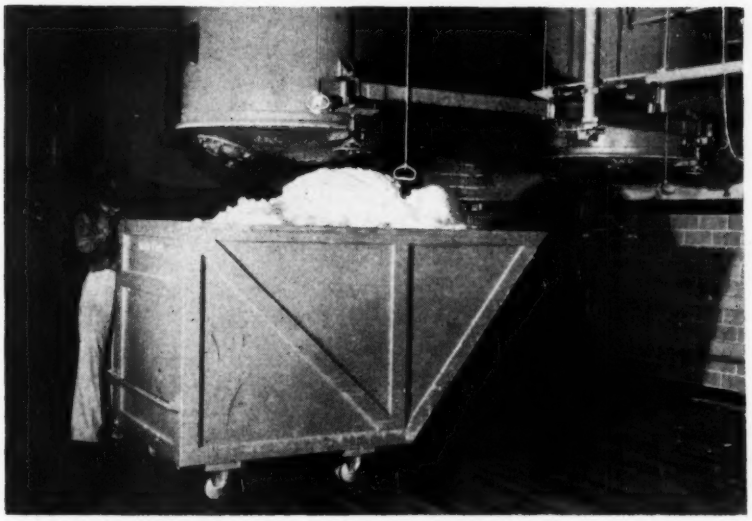
Your published Kink will be judged impartially by other mill men. In cases of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1954.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final.

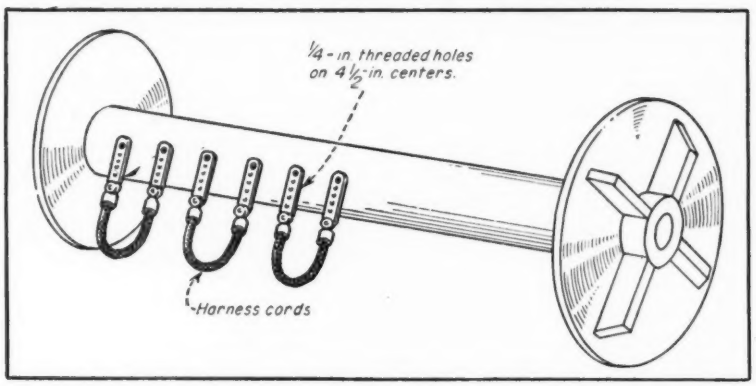
Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

Mill-Designed Truck Eases Waste Handling



THIS WASTE TRUCK has a sloping front end to facilitate tipping the truck with one hand, and the front end lies flat on the floor as the truck is emptied. The trucks are a feature of the waste room at the new Durst plant of Greenwood Mills, Greenwood, S. C.

Harness Cords Hold Ends on Steel Loom Beams



WARP YARNS are held securely by 24-in. harness cords screwed to the steel loom-beam barrel.

We recently bought new all-steel warp beams for our 120-in. C&K W-3 looms. We had been using wooden beams and had stapled ropes to the barrels of the beams to hold sections of warp ends at the beginning of the beaming operation.

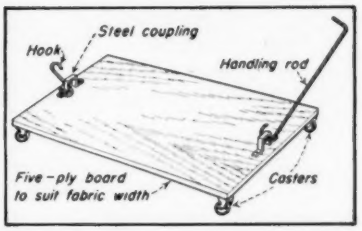
We could not staple ropes to the steel beam barrels. The barrels have ¼-in. drilled-and-tapped holes on 4½-in. centers. We tried to fasten the ropes to the barrels with machine screws at the holes, but the ropes pulled out. Washers on top of the ropes held the ropes securely, but the washers stuck up and broke warp ends when the beams were nearly empty at the looms.

We solved our problem by using harness cords. The cords are the braided-yarn-over-steel-cable type. The second hole from the end on the leather pieces on the ends of the cords is punched larger to take a ¼-in. machine screw. Then the screws are fastened to the holes in the beam barrels so that each cord forms a loop.

Sections of warp ends are fastened through the loops and are held securely. If a narrow warp is to be made on the loom beam, we simply unscrew one or two harness straps and adjust the beam flanges. On wide warps, we add extra straps.

Our beamer tenders like the harness-cord arrangement better than any method we have used; and the warps run well in weaving. *William R. Turner, Hamilton, Ohio.*

Cloth Carriers Ease Work



CLOTH PLATFORM can be pushed under menders' tables or under inspecting frames to receive the cloth. Several platforms can be hooked together to move heavier fabrics easier.

We made work easier for our menders and material handlers by making wooden platforms on casters that slide under the inspecting frames and under the mender's tables.

The cloth falls on the platform folded. A hooked rod is inserted in the steel couplings, and the platform is pulled to the menders' station. After mending, the platforms are hooked together and the material handler moves several pieces to the stock room or dyehouse at one time.

The platforms are made to the size of our widest cloth. We use a five-ply board, and a caster of the 360°-revolving type is screwed to each corner of the platform. A handle for each end of the platform is made from a 7x⅝x⅛-in. steel strip. The couplings and handles are ⅜-in. rods bent to suitable shapes. *Dan Singer, Newton, Mass.*

Ream Your Flyer Tops To Improve Roving Twist

With all the interest in roving twist between front rolls and flyer top, we did some experimenting with commercial devices and came up with a simple way to achieve the same end result: concentrating the twist where it is needed most.

All we do is ream out the flyer top to ⅝-in. dia. instead of the conventional ⅜ in. We found that a wall thickness of $\frac{3}{32}$ in. is sufficient.

The new opening is given a high polish, and the flyer is ready for use.

The result? Less fly, fewer ends down, and more uniform roving. In many cases, higher spindle speeds can be achieved in spinning.

The cost of the reaming is quite insignificant when the benefits are considered. Although roving is packed harder now, spinning is not affected. *R. W., Austria*

Kinks and Short-Cuts

Table Tells How Long To Run Ends-Down Tests

Sides	Total spindles	Size of test (spindle hours)				
		1000	2000	3000	4000	5000
2	240	250.0	—	—	—	—
3	360	166.6	333.3	—	—	—
4	480	125.0	250.0	375.0	—	—
5	600	100.0	200.0	300.0	400.0	—
6	720	83.4	166.6	250.0	333.3	416.7
7	840	71.4	142.8	214.3	285.7	357.1
8	960	62.5	125.0	187.5	250.0	312.5
9	1080	—	111.1	166.6	222.2	277.7
10	1200	—	100.0	150.0	200.0	250.0
11	1320	—	90.9	136.4	181 8	227.3
12	1440	—	83.4	135.0	166.7	203.3
13	1560	—	76.9	115.4	153.9	192.3
14	1680	—	71.4	107.2	142.9	178.6
15	1800	—	66.6	100.0	133.4	166.7
16	1920	—	62.5	93.8	125.0	156.2
17	2040	—	—	88.4	117.6	147.1
18	2160	—	—	83.4	111.1	138.9
19	2280	—	—	79.0	105.3	131.6
20	2400	—	—	75.0	100.0	125.0
21	2520	—	—	71.4	95.2	119.5
22	2640	—	—	68.2	90.9	113.6
23	2760	—	—	65.2	87.0	108.7
24	2880	—	—	62.5	83.3	104.2
25	3000	—	—	—	80.0	100.0
26	3120	—	—	—	76.9	96.2
27	3240	—	—	—	74.1	92.6
28	3360	—	—	—	71.4	89.3
29	3480	—	—	—	69.0	86.2
30	3600	—	—	—	66.7	83.3
Division factor		1	2	3	4	5

MINUTES TO TEST for various numbers of 120-sp. sides and spindle hours can be read directly from this table. The same sort of table can be made for any roving or spinning room to help get comparable tests.

If you conduct spinning ends-down tests on different numbers of frames and want your results to be comparable, you can make a handy table to tell how long to test for 1,000- to 5,000-spindle-hour accuracy.

The table saves you from figuring, for instance, that you can get a 4,000-sp.-hr. test on 3,600 spindles in 66.7 mins. or on 600 spindles in 400 mins.

Standards departments or spinning supervisors can use the table to insure that all tests are done on a comparable basis. A 2,000-sp.-hr. test, for instance, can't be expected to have exactly half as many total ends down as a 4,000-sp.-hr. test.

The table illustrated is for 120-spindle sides, but you can make a similar table to suit your own roving or spinning room. Likewise, spindle hours of testing can be laid out to fit your mill. The important function of the table is to help you get all ends-down tests on a comparable basis. Another advantage of the table, however, is that the total ends down need be divided only by 1, 2, 3, 4, or 5 to get ends down per thousand spindle hours.

An allowance should be made for frames stopped for doffing or other reasons during the test. Make-up minutes equal frame-minutes down divided by total frames. Let's follow through for a complete test:

The spinning overseer decides that a 4,000-sp.-hr. test gives him the best picture of his room's performance. He has ten frames (120 sp. per side) on a new yarn number; so he checks the table to find that the test should run 100 mins.

During the test, three frames are stopped for doffing for a total of 40 mins. Since 10 frames are being tested, 40 divided by 10 equals 4 mins. additional testing time to get a 4,000-sp.-hr. test. So the test runs 104 mins. instead of 100.

Total ends down in the test came to 76. Since the division factor at the bottom of the 4,000-sp.-hr. column is 4, the final answer is 76 divided by 4, or 19 ends down per thousand spindle hours. *M. C. Gross, Dracut, Mass.*

Colored-Paper Wrappers Protect Warp Piecing Ends

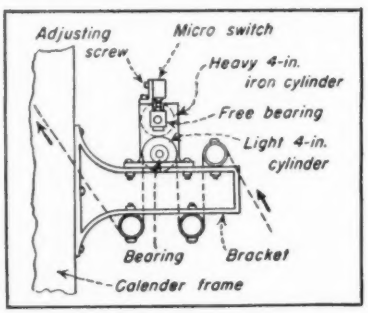
Until recently, we had a lot of trouble identifying weavers' piecing ends for warps on filament-rayon cloth. The ends also became so tangled that we had trouble removing one end from the others, especially on crepe yarns.

Several months ago we began using various colors of paper to wrap the piecing ends. The ends are rolled in the paper with 3 ins. of yarn sticking out at each end. Paper tape the same color of the paper is used to hold the paper around the ends. The tape is also used to hold the piecing ends to the loom arches.

A small piece of the tape is stuck to the warp ticket. When piecing ends are lost from one loom, weavers can easily borrow similar ends from another loom without danger of mixing yarns or colors.

Ends prepared this way never tangle, and one piecing end is always quickly removed from the others. The results are slightly increased weave-room production and higher-quality cloth. *G. I. Grant, Ontario, Canada*

How We Prevent Damage To Our Calender Rolls

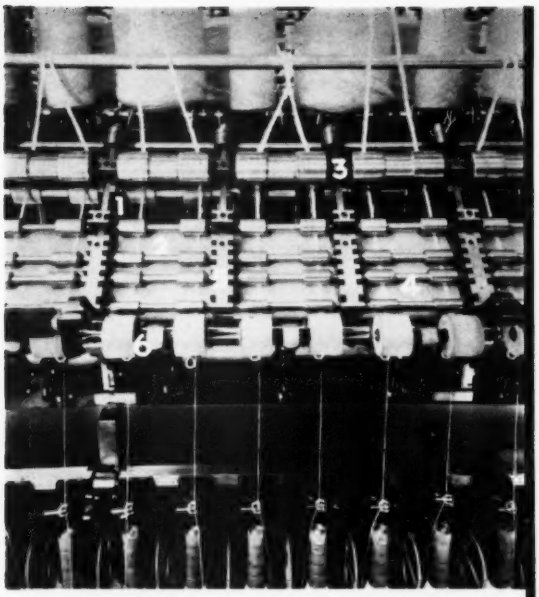


TOP ROLL, a 4-in. iron cylinder, is set in movable bearings that rise at cloth imperfections to contact switches and stop the calender before roll damage can occur.

We've rigged up some extra rolls at the front of our calender to prevent damage to the rolls from foreign matter, folds, and seams.

The main element is a pair of 4-in. cylinders. The upper cylinder is set in bearings that can rise at a thick place in the cloth. As the bearing rises, it contacts a Micro switch that opens the motor circuit and stops the calender.

The upper cylinder is heavy so it will not dance and stop the calender unnecessarily. The lower cylinder is lighter in weight. *H. B. Mascarenhas, Uberaba, Brazil*

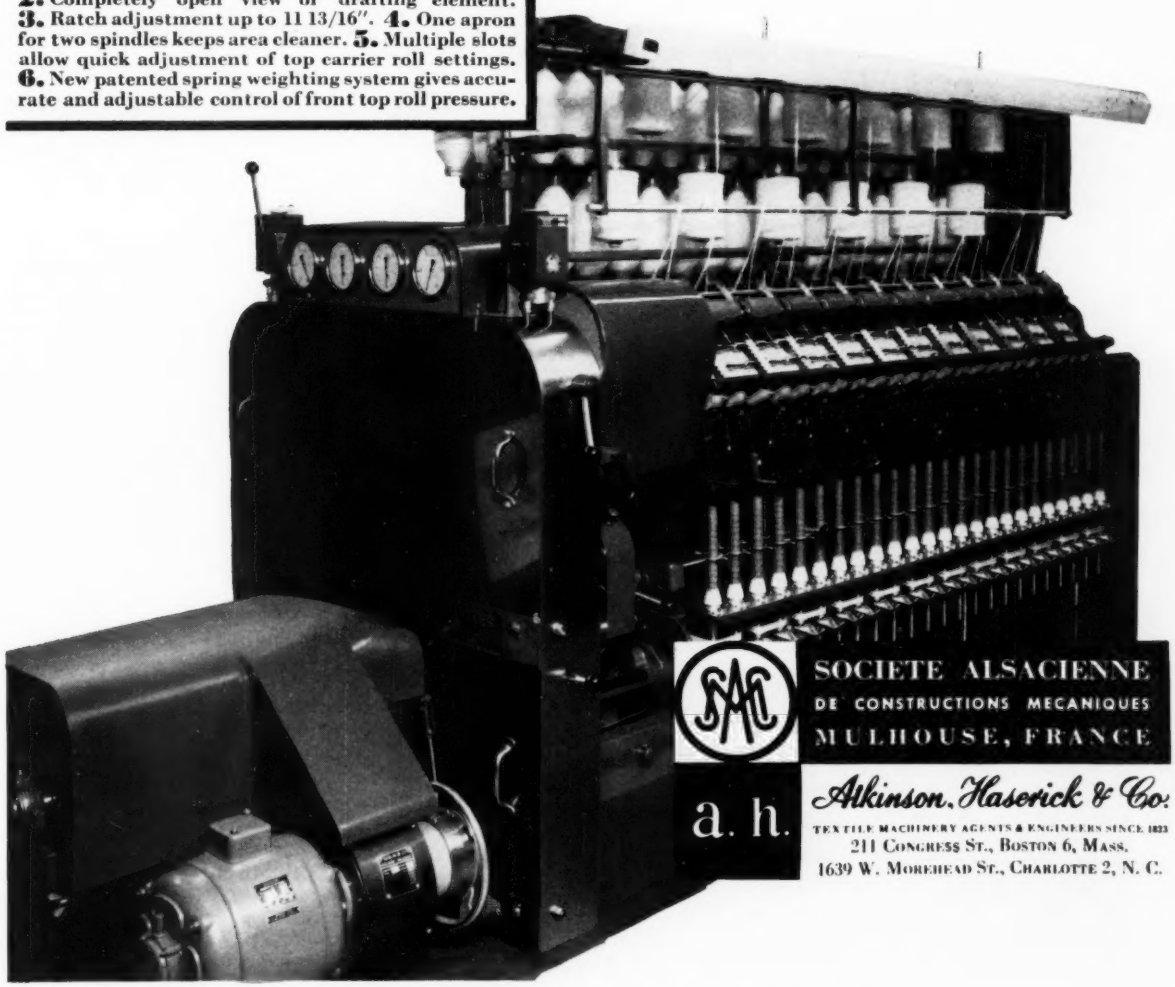


VERSATILE, NEW FEATURES

1. Three unit construction permits changing aprons in a few seconds without stopping the machine. **2.** Completely open view of drafting element. **3.** Ratch adjustment up to 11 13/16". **4.** One apron for two spindles keeps area cleaner. **5.** Multiple slots allow quick adjustment of top carrier roll settings. **6.** New patented spring weighting system gives accurate and adjustable control of front top roll pressure.

NEW S.A.C.M. SPINNING FRAME SPINS *ALL* TYPES OF WORSTEDS, BLENDS AND SYNTHETICS

This new S.A.C.M. Spinning Frame produces fine quality yarns from twisted or untwisted Rovings. The new S.A.C.M. wide apron Drafting System controls a wide range of various types and lengths of fibres, with drafts up to 20. Tachometers give a constant check on the front roller and spindle speeds. Precision machine work and simplified construction keeps maintenance low. This versatile frame, combining high quality spinning with high production, is an attractive investment for the spinner of quality yarns. May we send you more information?



SOCIETE ALSACIENNE
DE CONSTRUCTIONS MECANIQUES
MULHOUSE, FRANCE

a. h.

Atkinson, Haserick & Co.

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211 Congress St., Boston 6, Mass.
1639 W. Morehead St., Charlotte 2, N. C.

 For more information, write direct or use Reader Service post card.

Kinks and Short-Cuts

Carefully Selected Drivers Aid Lift-Truck Operation

At American Finishing Co., Memphis, Tenn., it takes five years to become eligible for a job driving a lift truck. That's because competition is so keen.

Each truck is assigned to a certain driver. If he is caught mishandling his equipment or damaging material with it, he's given a warning. The second offense means a one-day layoff, the third offense means a one-week layoff, and the fourth offense means a discharge. The second or third offense could call for discharge if the extent of the damage or the employee's attitude warranted.

Driver selection for a new truck depends on his safety record and his cost record of truck operation.

Lift-truck costs have tumbled since the strict system went into effect. Yearly operation cost for a truck (including amortization) is $1,358.94. On a three-shift operation, this figure reduces to $452.98 a year.

Best-Kink Award for May

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for May, according to TEXTILE WORLD reader-judges, was:

"Make Ply Yarn on the Knitting Machine"

By Paul Howard, High Point, N. C.

Mr. Howard is being sent a check for $25 with the compliments of TEXTILE WORLD.

Extractor Loading Is Improved

To improve the loading and unloading of our extractors, we ran a shaft over the center of the extractor line.

The shaft is driven by a 3-hp. motor. We put a concave roller on the shaft over the center of each of the extractors.

To load the extractor, we push the truckful of fabric to the left side of the extractor and throw the fabric over the concave rollers. The fabric falls into the extractor.

The truck is pushed to the opposite side of the extractor when we unload. An operator throws the fabric over the roller and guides the fabric into a truck as it is lifted from the extractor. *Dan Singer, Newton, Mass.*

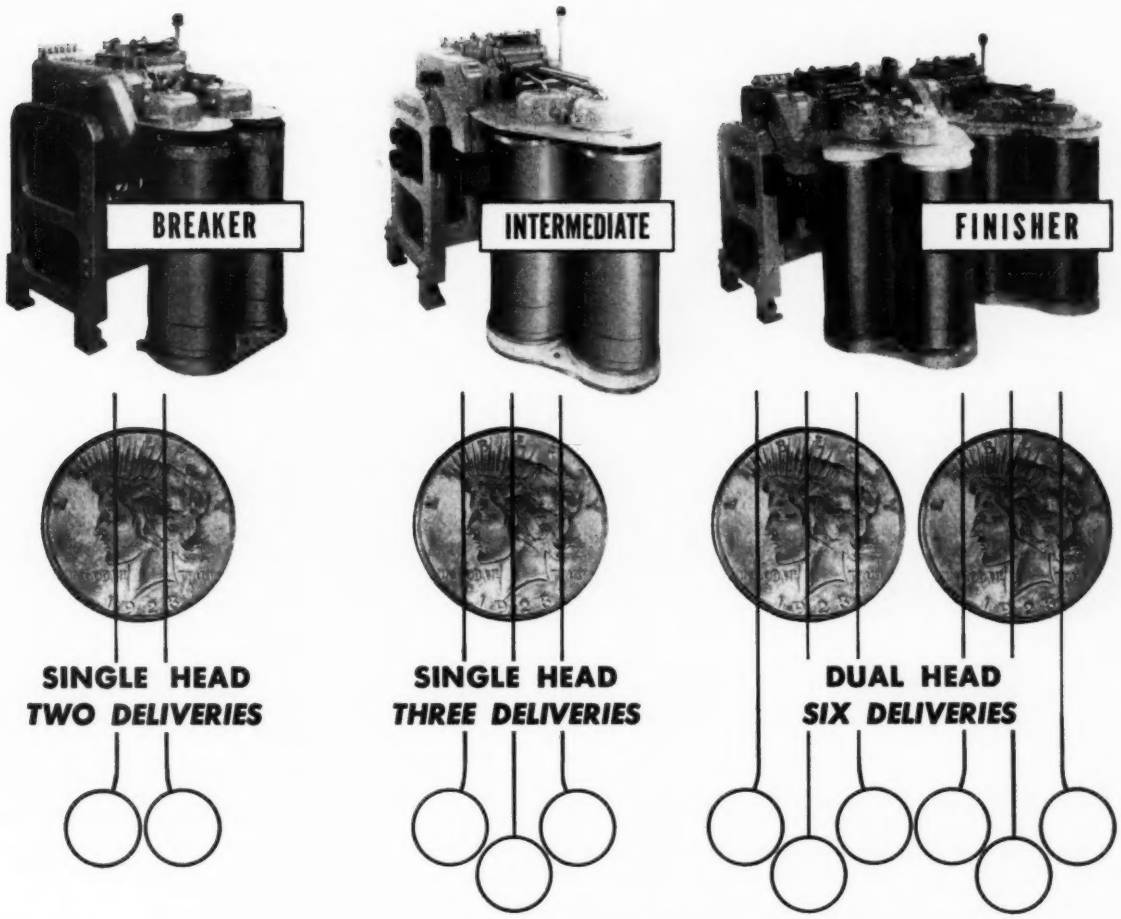
This Glass-Doored Cabinet Keeps Spare Parts and Lubricants

At the mills of British Sewing Silks Ltd., Greenford, England, machines are grouped in sections and each section is provided with a glass-doored cabinet for special lubricants, tools, and spare parts.

The tools and spare parts are clipped to flat boards for easy accessibility, and the boards slide out horizontally. Both sides of each board can be used, and a large number of separate pieces can be stored in a small space. Tools are readily accessible, too.

The 1-gal. cans of oil carry a distinguishing letter, and the oil cans used for dispensing this oil carry corresponding letters. This method insures that one oil can is used always for one grade of lubricant, and there is no uncertainty about what kind of oil it contains. The white plastic letters are the type sold at hardware and dime stores. Each letter is secured to a metal plate with rivets, and the metal plates are then soldered to the oil cans. Attachment to the bulk storage cans is by means of a bent-over portion that clips to the raised edge of the can. *Clifford T. Bower, London, England*

MILL-DESIGNED CABINET contains small spare parts and lubricants for a group of machines. Glass doors keep out dirt, and a lettering system helps insure that the proper oil is used in each oil can.



COUNT THE HEADS—COUNT THE DOLLARS—COUNT THE PRODUCTION and you will invest in

HOLDSWORTH GILL REDUCERS

A balanced set of Holdsworth Gill Reducers produces 150 lbs. per hr. of fifty-grain worsted or blended sliver. As only four heads of fallers are required, your capital investment is low both per machine and per pound produced. As sliver weight, draft and production are balanced for the entire operation, work flows through the set without the common bottleneck at the intermediate operation. There are neither excess cans waiting for processing nor idle machines waiting for stock. Other combinations consisting of 2, 3 and 4 delivery Gill Reducers are available to meet your particular requirements. May we send you more information?

HOLDSWORTH GILL SCREW CO., INC.
55 Sabin St., Pawtucket, R. I.

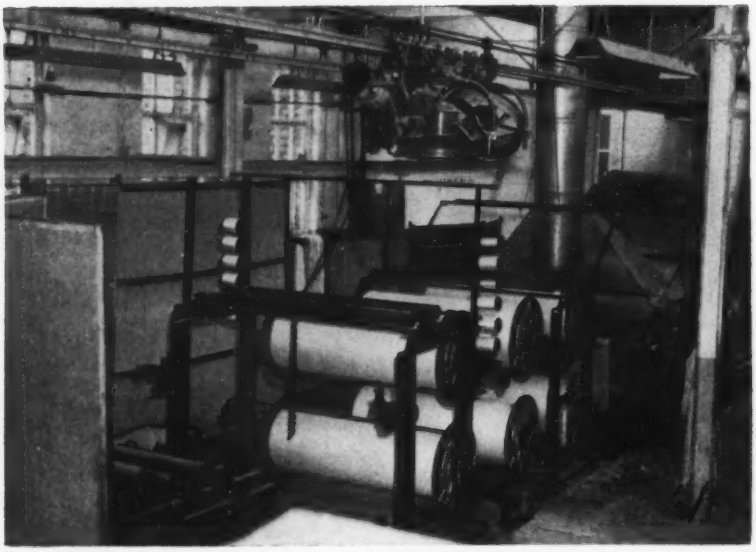
a. h. Atkinson, Haserick & Co.
TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823
211 Congress St., Boston 6, Mass.
1639 W. Morehead St., Charlotte 2, N. C.

Holdsworth builds all types of gilling machinery for the various systems used in producing yarn.

 For more information, write direct or use Reader Service post card.

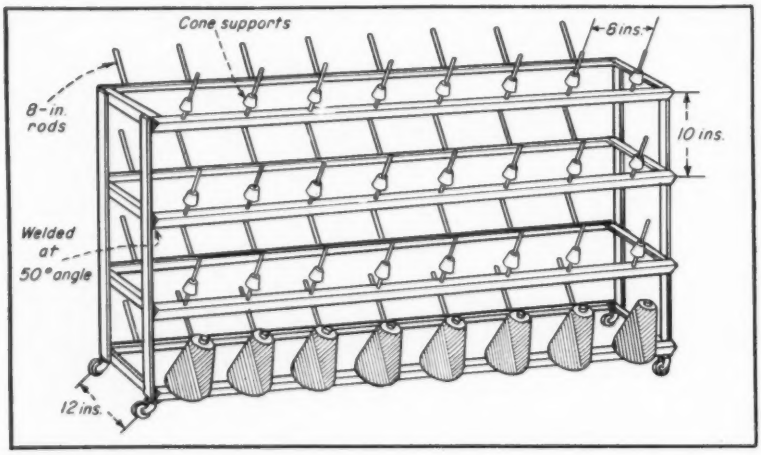
Kinks and Short-Cuts

Fans Oscillate Above Slasher



CLEANER ON MONORAIL traverses the entire length of the slasher to prevent accumulation of lint and fly on the yarn and above the slasher. One fan points up at a 45-degree angle, and one fan points directly down. Speed of the overhead cleaner, which runs continuously and reverses at each end, is about 3 ft. per min. *Clifford T. Bower, London, England.*

Cone-Handling System Saves Knitters' Time



YARN-CONE TRUCK holds 64 cones of yarn to creel knitting machine at one time.

We change all the yarn cones on our 64-feed machines at the same time. To save our knitters several trips to the stock room to get yarn, we built a special truck to hold 64 cones. The truck is pushed to the knitting machine, and the knitter loads the creel from the truck.

The truck was made from 1-in. angle iron, and it runs on four casters. Four upright supports were used, and four horizontal angle irons were welded to each upright support at an angle of 50° for easy handling of the yarn.

Eight holes were drilled and tapped in each horizontal piece at 8-in. intervals, and 8-in. rods were screwed in each hole. A cone holder used on knitting machines was screwed to each rod to hold the cones firmly in position.

In addition to saving knitters' time, this device keeps our yarn cleaner and prevents damage to the yarn. *Dan Singer, Newton, Mass.*

Track Over Dry Cans Reduces Removal Time

Removal and replacement of dry cans at Cone Mills' Proximity Plant is a simpler operation now that tracks have been installed over the cans. A hoist lifts the cans up and has reduced labor time and effort considerably. *The Textorian*

Torque Wrench Closely Sets Let-Off Friction Clamps

FOOT-POUND READING on the torque-wrench dial shows when let-off friction cam is adjusted properly to weave cloth free of waviness.

We used to have a lot of trouble with wavy cloth and set marks on filament-rayon fabrics woven on Draper looms with Bartlett let-offs.

We have reduced these faults in our cloth by using a Snap-On torque wrench to set the tension on the let-off friction clamps.

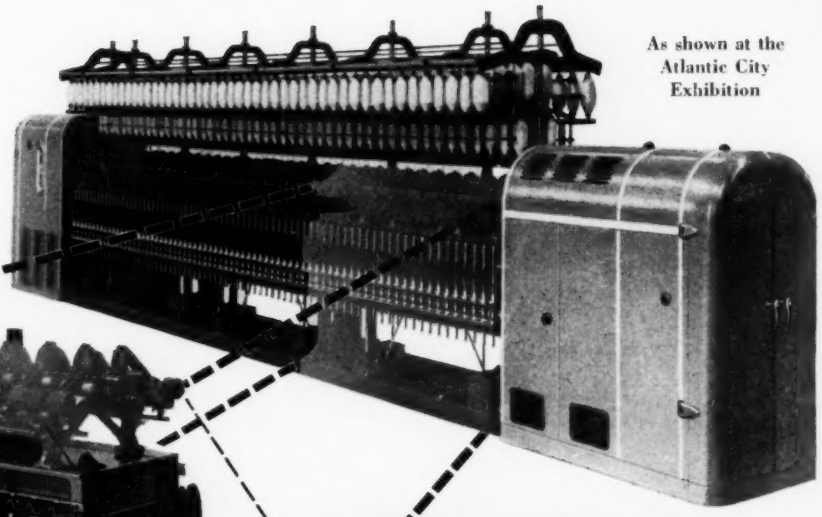
A steel bar is welded to the tool crosswise in relation to the tool handle. Then the steel bar is inserted from the top of the let-off handwheel through the spokes.

The friction cam is adjusted until the handwheel breaks loose at predetermined foot-pound pressures. For example, on Barlett let-offs with two friction clamps on XK looms, we have the bottom clamp break at 10 ft.-lbs. with the top clamp loose. The top clamp is then fastened, and it breaks at a 20-ft.-lb. reading.

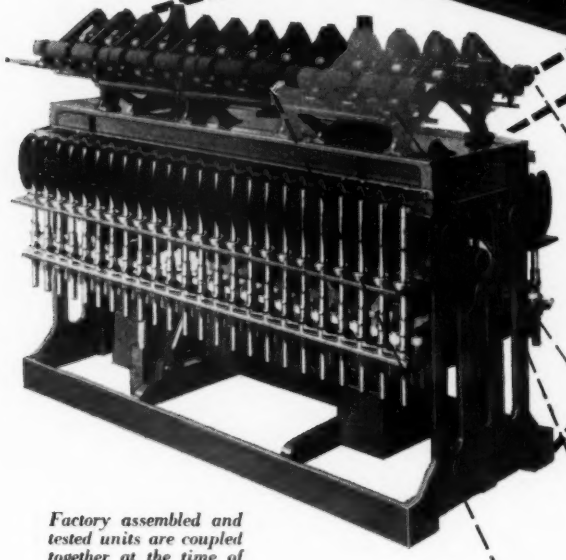
By experimenting with recorded foot-pound pressures on various styles of cloth, we have determined a standard setting for each style.

Now we set all let-off friction clamps to the standard setting at new warps, and our second-quality cloth from waviness and set marks is greatly reduced. *W. M. Land, Lowell, N. C.*

PLATT UNIT CONSTRUCTION *lowers cost, simplifies maintenance, speeds shipping, halves erection time*



As shown at the Atlantic City Exhibition



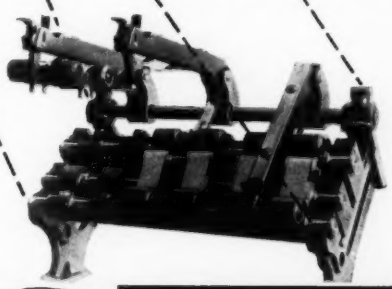
Factory assembled and tested units are coupled together at the time of erection

NEW PLATT M-2

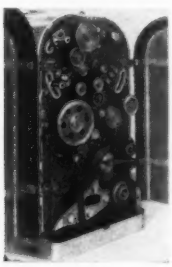
HIGH DRAFT RING SPINNING FRAME

FEATURES IMPROVED QUALITY, LESS END BREAKAGE, GREATER SPEED AND SEMI-AUTOMATIC DOFFING

The M-2 cotton system frame standardizes spinning factors to obtain an even yarn tension throughout the full build of the bobbin. Gauges of 2½", 3" and 4" are provided for rings of 1¾" to 3" diameter, with lifts from 5" to 12".



THE NEW PLATT TOP APRON drafting system is neat, clean and uncomplicated. It is highly flexible with only minor adjustments. Yarn spun with a draft of up to 50 is equal in strength and regularity with yarn spun with lower drafts. A short apron, working over a large second line bottom roller, holds the fibers in a definite path as they are not subjected to the undulations of two aprons. The Pneumafil System is built into each unit.



HEADSTOCK houses the twist and draft gearing, all mechanical and electrical controls and the builder motion that is self-acting, not requiring resetting on the completion of the packages.

PLATT BROS.

SALES LTD. OLDHAM, ENGLAND

a. h.

Atkinson, Haserick & Co.

TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823

211 CONGRESS ST., BOSTON 6, MASS.

1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.

DOFFING IS SEMI-AUTOMATIC as individual motors automatically set-up the frame for doffing. The operator just replaces the full package with an empty bobbin or tube. How many man-hours could this conserve in your mill?

WHAT DO YOU WANT MOST FROM A PROCESS OIL?

Good surface lubrication, excellent scourability, higher yield, uniformity, lower cost—or all of these? All of these, of course. That's where Sun comes in. From its complete line of process oils—for wool, cotton, man-made fibres, asbestos, cordage—you can select the one that will give you a finished product with the desired characteristics at the lowest possible cost. For more information, call your nearest Sun office or write SUN OIL COMPANY, Philadelphia 3, Pa., Department TW-7.

INDUSTRIAL PRODUCTS DEPARTMENT

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SUNOCO®

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Refiners of famous High-Test Blue Sunoco Gasoline

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Reader Service

MILL EXECUTIVES may obtain free for the asking . . .

. . . OUTSTANDING TRADE LITERATURE reviewed on the next and following pages

. . . FURTHER INFORMATION on
New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

WRITE ON THIS CARD

. . . to get more information on anything published in the editorial or advertising pages of this issue. If your inquiry concerns equipment or supplies, name the specific equipment or supplies involved. If your inquiry concerns anything other than equipment or supplies, you must state specifically the information you want.

. . . to send a Kink, a letter for Round Table, or a news note.

. . . to comment on anything appearing in this issue.

. . . to query the editors about any manuscripts you might wish to submit to them.

. . . to send an inquiry to the Questions & Answers department.

●

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. . . to request copies of trade literature described on the next and following pages or to get more information on New Textile Equipment, New Dyes & Chemicals, and New Useful Accessories described in this issue.

Dear Editor: This card expires September 30, 1954

Please send me additional information on the following:

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TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. JULY, 1954

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TEXTILE EQUIPMENT NEWS Number: T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8 T-9 T-10 T-11 T-12 T13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22 T-23 T-24 T-25 T-26 T-27 T-28 T-29 T-30 T-31 T-32 T-33 T-34 T-35 T-36 T-37 T-38 T-39 T-40

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TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. JULY, 1954

Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for July are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A large-package automatic spooler is described in a brochure from Barber-Colman Co. A 6-lb. cylindrical package is wound on a grooved winding drum. The individual package supports have a straight-line forward and backward motion, and each package spindle has a built-in brake. **(F-1)**

Novelty yarn twisters are described in a brochure from Collins Bros. Machine Co. A two-roll head gives three speeds to each roll. Spiral, flake, loop, boucle, nub, ratine, and other yarns can be made with the dual-chain pattern mechanism by simply changing the links on the chain. **(F-2)**

Creels are explained in a bulletin from N. V. Machinefabriek L. te Strake. Methods of mounting yarn guides are shown. Cone holders and yarn-tension devices are described, and a special balloon-control device is illustrated. **(F-3)**

A warp lubricator is described in a bulletin from Seydel-Woolley & Co. Advantages of the device, which is fixed between the slasher drying section and the loom beam, are: higher weaving efficiency, better cloth, longer shuttle life, and less mess and waste. **(F-4)**

An automatic filling winder is described in a bulletin from Foster Machine Co. The winder's speed is 15,000 rpm., and one operator can handle 5,000 lbs. of yarn per 8-hr. shift at a very low cost. All types of yarn can be wound, and the bobbins are automatically stacked on pinboards. **(F-5)**

Dryers for rayon cakes, skeins, and sized nylon yarns are the subject of a bulletin from Lydon Brothers, Inc. Capital investments are reduced in air-conditioned storage space, trucks, tubes, and yarn inventory. One, two, or three separately controlled compartments are featured. **(F-6)**

A bobbin-winding machine is described in a leaflet from Robert Reiner, Inc. Features of the winder are an even, steady speed and an individual motor with direct drive and no belt. The production is 3½ to 4 lbs. per 8 hrs. each machine with a spindle speed of 1,200 rpm. **(F-7)**

A high-speed direct warper is described in a brochure from Sipp-Eastwood Corp. The speed range is 75 to 900 yds. per min. Beam sizes are up to 36-in. dia. and widths are up to 54¼ ins. Electrical controls make for push-button operation. **(F-8)**

An automatic pirn winder for silk and rayon is described in a brochure from Yeomans Textile Machinery Co. Each winding unit has special bobbin-end binding and a Kidde tension device. Each winding unit is fitted with a stop motion, and the empty tubes are set on spindles in a revolving head. **(F-9)**

A multipurpose calender for resin finishes is described in a bulletin from McKiernan-Terry Corp. Operating pressures are up to 75 tons, face widths are 44 to 72 ins., and the speed is up to 45 yds. per min. Oil leaks are reduced to a minimum by bearing oil seals to withstand temperatures up to 500° F. **(F-10)**

AUXILIARY EQUIPMENT

Vacuum card-stripping systems for revolving-top flat cards are described in a bulletin from Abington Textile Machinery Works. The operation of the system is explained, and waste disposal techniques are shown. **(F-11)**

A horizontal bagging machine for waste control is described in a leaflet from W. W. Windle Co. This portable machine is used for all types of waste and stock. Only one worker is necessary to rapidly fill one bag, and seaming is done quickly on the machine. **(F-12)**

A Charlotte colloid mill is described in bulletin from Chemicolloid Laboratories, Inc. This mill consists of a grooved conical rotor in a correspondingly grooved conical stator. The clearance between the parts is regulated by a calibrated adjustment. **(F-13)**

A textile wrapping machine is described in a bulletin from Hayssen Mfg. Co. The operator only needs to place the folded textiles on the infeed conveyor and remove the completely wrapped and sealed packages. An electric eye registers the design on each package. **(F-14)**

Cellophane-bag-making machines are described in a bulletin from Amsco Packaging Machinery, Inc. Five models make bags from 9 ins. wide by 16 ins. long to 12 ins. wide by 20 ins. long at 4,000 bags per hour. Crimp-bottom bags can be made. **(F-15)**

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Reader Service (Continued)

Conditioning on the winder is discussed in a leaflet from Kearny Mfg. Co., Inc. A pad that is lubricated from a pipe rests on the grooved roll of the Roto-Coner and allows conditioning and twist setting of each layer of yarn. **(F-16)**

"Better Spinning and Twisting" is the title of a brochure from SKF Industries, Inc. Roller-bearing spindles that reduce power consumption and allow larger packages to be made and tape tension idler pulleys that reduce friction, drag, and maintenance are described. **(F-17)**

A mercury-switch thread-break detector is described in a leaflet from Micro Switch. The device is completely lint and dust free and can be used for either making or breaking a circuit. **(F-18)**

A dehumidifier with humidistat control is described in a leaflet from Walton Laboratories, Inc. The 50% greater horsepower means 50% more refrigeration capacity to condense more moisture from the air. The water receptacle has a capacity of about 3 gals. **(F-19)**

Wool-oiling equipment is described in a brochure from Pneumatic Conveyors Ltd. Diagrams of typical installations with Atomist oilers are explained. The equipment can be used in almost any line of ducting used in blending. **(F-20)**

SUPPLIES AND CHEMICALS

Bonded nylon spindle tapes are described in bulletin from Wm. Kenyon & Sons (America) Ltd. These tapes reduce power consumption, raise spindle speed, and improve quality because spindle speed is smoother. Bonding is done on a special electric machine. **(F-21)**

Vulcanized fiber receptacles are described in a leaflet from Spaulding Fibre Co., Inc. Open-end stacking boxes, cans, tray-type boxes, trucks, and tote boxes are durable, clean, and smooth, with no sharp edges and no splinters. **(F-22)**

Synthetic automatic loom bobbins are described in a brochure from American Paper Tube Co. It is impossible to trap the yarn on these bobbins, and the heavy plastic tip protects the nose from damage. The bobbins are used especially for soft-twist yarns, no-twist acetate, and hard-twist nylon. **(F-23)**

Writing tubes for marking textiles are shown in a pamphlet from John P. Nissen, Jr., Co. The colors are dye resist and bleach- and causticproof. One $1.00 tube will mark about 4,000 pieces of nylon, cotton, Dacron, wool, Orlon, rayon, or silk. **(F-24)**

Travelers shaped to an ellipsoid field are described in a leaflet from National Ring Traveler Co. The special shape follows the contour of the ring flange, air resistance is reduced, and large-package spinning is improved with better balloon control. **(F-25)**

A flexible bobbin that expands to form the yarn support for any size of pot-spun package is described in a leaflet from The Pot Spinning Corp. The bobbin is a split paper tube. It can contract to allow for relaxation of the yarn. **(F-26)**

Sapphire thread guides are described in a leaflet from Linde Air Products Co. These guides are made in many shapes and are said to outwear metal or ceramic guides many times. **(F-27)**

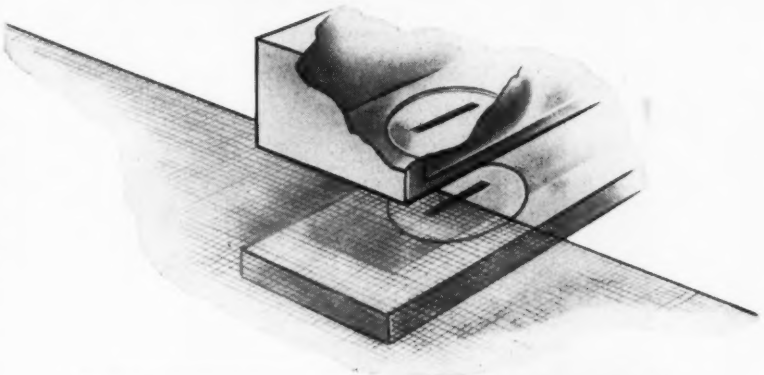
Flexible couplings are the subject of a leaflet from Continental-Diamond Fiber Co. The coupling transmits power smoothly and quietly and can handle peak loads and withstand shocks and vibrations because of the Celeron construction. **(F-28)**

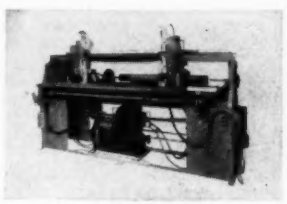
A textile-mill caster that does not bind with thread is described in a bulletin from Wright-Batchelder Corp. The caster is free rolling and swiveling and permanently lubricated, and there are no nuts or bolts to work loose. **(F-29)**

Stainless-steel bristles for cotton, woolen, and worsted mills are listed in

ASKANIA
CLOTH GUIDE CONTROL

Nothing touches the cloth but a breath of air





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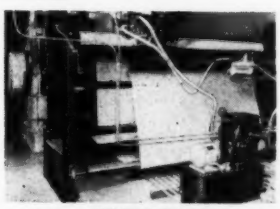

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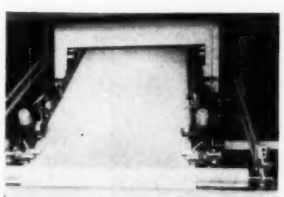

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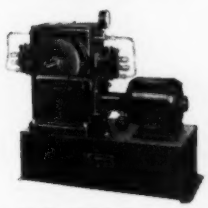
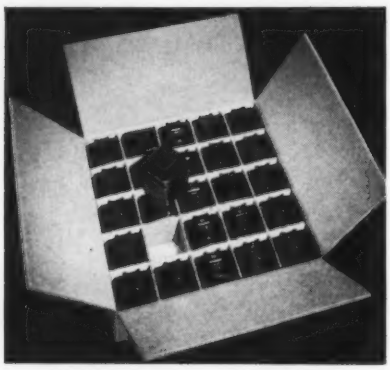


CLOTH GUIDE REGULATOR

The Askania Cloth Guide Control has been tested on hundreds of applications—it's extremely fast, accurate and dependable. It guides fast moving webs with a breath of air. It's an ideal unit to solve your cloth guiding problems on Tenter Frames, Tubing Machines, Folding Machines, Examining Machines, Printing Machines, Slitting Machines, Labeling Machines or Rewinding Machines. Askania Cloth Guide Controls are establishing new standards in the finishing departments of hundreds of Textile Mills. If you have a cloth guiding problem—ask for Bulletin A-161, or call Askania engineers for full details.

ASKANIA REGULATOR COMPANY
272 E. Ontario Street, Chicago, Illinois
Subsidiary of General Precision Equipment Corp.

CREATE **INTEREST**



SHIP WITH **SAVINGS**

COLLECT SALES **DIVIDENDS**

HINDE & DAUCH

AUTHORITY ON PACKAGING

40 SALES OFFICES • 17 FACTORIES AND MILLS

Write for free booklet "How to Prepak in Corrugated Boxes."
Hinde & Dauch, Sandusky 19, Ohio

Reader Service (Continued)

a data sheet from Elmwood Brush Co. The brushes are used primarily for combing, and one installation has run over 11,000 hrs. **(F-30)**

Pyridine is the subject of a brochure from Pittsburgh Coke & Chemical Co. The brochure describes the company's new recovery service to enable users of the product to reduce pyridine costs. Information on applications, specifications, and other properties are given. **(F-31)**

"Fulling and Scouring Wool Fabrics" is the title of a booklet from Proctor & Gamble Co. Factors that influence fulling and scouring, the effect of spinning oils, the behaviour of fulling agents, and methods for obtaining the best results are detailed. **(F-32)**

ENGINEERING AND MAINTENANCE

Hot water is the subject of a booklet from A. O. Smith Corp. Various installations of hot-water systems for small plants are described. **(F-33)**

A color-engineering service is described in a pamphlet from The Glidden Co. Various industrial paints are described with their applications. New colors that reduce accidents, lower costs, and improve morale are listed. **(F-34)**

Wet-floor patch is the subject of a pamphlet from The Camp Co., Inc. The patch is not affected by continuous running of hot or cold water, resists acids, alkalis, oil, and grease, and is mixed with water. **(F-35)**

Infrared lamps for heating and drying are described in a bulletin from Sylvania Products, Inc. Hints on planning an infrared installation, how to determine power requirements, and how infrared is used in industry are subjects in the bulletin. **(F-36)**

Fans are described in a bulletin from Chicago Blower Corp. The fans are of the airfoil-centrifugal types and are used for heating, ventilating, and air conditioning. The fans operate at 90% efficiency. **(F-37)**

Rotary pressure joints are the subject of a bulletin from The Johnson Corp. The new joints that are used to admit steam or liquids under pressure into textile machines are smaller, lighter, and cheaper and have a longer life than previous models. **(F-38)**

Sheaves with malleable split-taper compression bushings are described in a pamphlet from Browning Mfg. Co. The sheaves can be mounted on the shaft very securely because of the split bushing but can easily be removed. **(F-39)**

"Moisture control in compressed air" is the title of a brochure from Van Products Co. Types and quantities of impurities in compressed air and methods for their removal are discussed. **(F-40)**

pH control in industry is described in a brochure from Beckman Instruments, Inc. Water treatment, control of chemical reactions, and waste disposal are described, and pH control in bleaching, dyeing, and conditioning of textiles is dealt with. **(F-41)**

Electronic temperature control is the subject of a bulletin from Robertshaw-Fulton Controls Co. The new control is applicable for electric, steam, and hot-water heaters, baths, ovens, and dryers. **(F-42)**

Building maintenance is the subject of a folder from Stonhard Co. The folder describes how to patch or overlay concrete areas that have been ruined by acid, grease, oil, or excessive wear and how to prevent water seepage. **(F-43)**

Relief valves and pressure-regulating valves are described in a catalog from Schade Valve Mfg. Co. Capacity factors, basic steam capacities, and basic water capacities are listed. **(F-44)**

A guide for figuring Texrope drives is supplied by Allis-Chalmers. The belt ratings resulting from this new method take into consideration effect of belt length, ratio of diameters of both the

PIGMENT PARTICLES WON'T AGGLOMERATE
WHEN TAMOL GETS INTO THE ACT
Without adequate dispersion, particles of pigment stick together and form a heterogeneous mass which invites trouble.
Each pigment particle is coated with a trace of TAMOL dispersant, thereby maintaining a creamy, homogeneous mix.

Here are two Rohm & Haas dispersants which suggest wide application and new benefits in the processing of pigments:

TAMOL N is an efficient, economical dispersant for pigment and dyes. Its action upon solids occurs *without* depression of surface or interfacial tension. As a result, there is no frothing or foaming during milling or mixing operations.

TAMOL N is a particularly fine dispersant for carbon black. It is a highly efficient dispersant in print pastes, giving improved printing properties. TAMOL N is available in water solution, designated TAMOL L.

TAMOL 731-25% is a colorless liquid dispersant which is electrolyte-free. It has excellent dispersing activity on a wide range of solids. It will effectively disperse hydrophobic solids like carbon black, and also many of the more hydrophilic inorganic pigments. It is also available in 100% active dry form as TAMOL 731.

TAMOL N and TAMOL 731-25% are both available in commercial quantities.

For complete technical information, write to your nearest Rohm & Haas office.

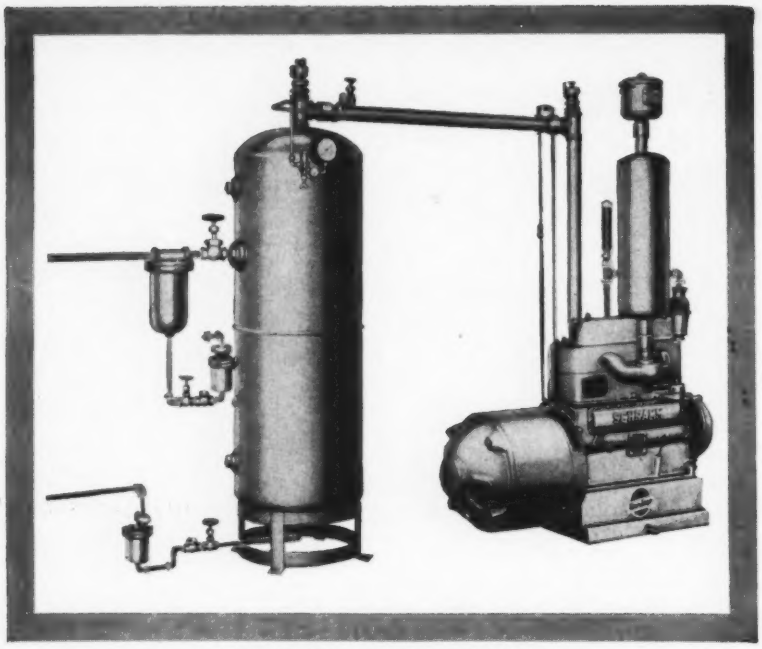
CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

TAMOL is a trade-mark Reg. U. S. Pat. Off. and in principal foreign countries.



A Complete Schramm Compressor Installation

Air Is The Key To The New "TASLAN" Textured Yarn...

TRADE MARK

Schramm Air Compressors Will Do The Best Job For You...Because Schramm AIR Is Properly Regulated and Free From Both Moisture and Oil.

A blast of air used in the treatment of standard commercial textile yarns causes extraordinary effects that promise to open new markets for man-made fibers. Compressed air is the key to the yarn treatment developed by Du Pont for use by yarn processors and textile manufacturers.

The new process gives regular filament yarns characteristics not unlike cotton or wool spun yarns, and produces yarns that are different in both their physical and aesthetic properties for the fabric designer.

Air, *properly* used and *accurately controlled*, makes the physical changes that are the process. The blast of air causes loops to rise from the surface of the shiny yarn filaments. Air pressure in the range of 20 to 70 p.s.i. are used, depending on the yarn being processed and the characteristics desired in the end product.

Aiding in this new TASLAN Textured Yarn production is only one of the many uses for the versatile SCHRAMM compressor. Throughout the textile industry Schramm furnishes air for the many air jobs required. If you are not a Schramm user now, we invite your inquiry.

Write today for bulletin TTY-54

SCHRAMM, INC. The Compressor People **West Chester, Pa.**

Reader Service (Continued)

driving and driven sheaves, and the resultant belt life. **(F-45)**

Metal-seeded concrete flooring is the subject of a folder from Flash-Stone Co. The flooring operation is done with power equipment to insure maximum compactness and adhesion of concrete and metal-chip composition. **(F-46)**

A water softener for small and medium-size plants is described in a brochure from Cochrane Corp. The units are available in a wide range of sizes and capacities, require a minimum of piping, and are easy to install. **(F-47)**

Conveyor belts are described in a catalog from Hamilton Rubber Mfg. Corp. Practical illustrations tell about belt covers, breaker fabric, rubber friction, skim coat, and reinforced rubber edges. **(F-48)**

"If You Use Water" is the title of a booklet from Rohm & Haas Co. The three major water treatments based on ion exchange—softening, dealkalization, and deionization—are described with various flow diagrams. **(F-49)**

Safety step ladders are described in a bulletin from Ballymore Co. The ladders have rolling casters that carry the ladder when not in use and rubber-tipped legs that lock to the floor when they are in use. **(F-50)**

Mill Maintenance

Study Your Needs Before Buying Casters

Proper selection of casters for mill trucks can be of great importance in efficiently and economically handling materials. When properly applied, casters will minimize physical effort and last a long time.

Ask Yourself Five Questions

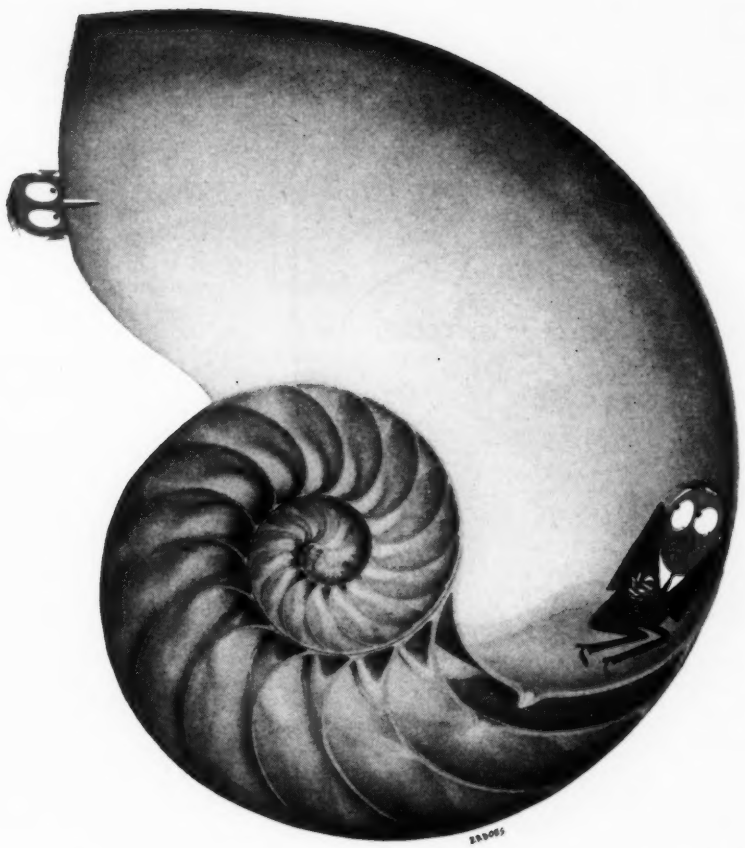
There is no definite mathematical rule or formula that can be laid down for properly selecting casters. But there are five important questions that should be answered before you start to select the caster for your specific need. Most of the five questions bring up less important ones. The questions are:

1. What is the weight of the load? What is the maximum load to be carried? Will trucks be overloaded by careless employees? Will the load be dropped onto the truck?

Under any of these conditions, you should choose a caster with a capacity rating greater than the maximum load anticipated.

2. What are the floor conditions? Is the operating surface rough? Are floors steel, wood, or concrete?

Look for sharp door sills, elevators,



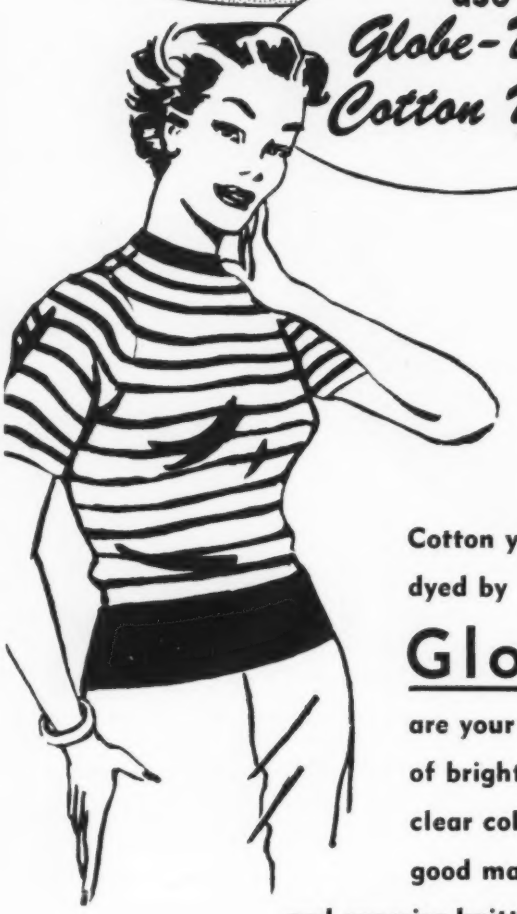
aloof?

No textile manufacturer can afford to stand aloof from the facts of good lubrication. The oils and greases he uses in his operation are a tremendously important factor on his profit and loss sheet. The complete Cities Service line of lubricants for the textile industry has proved to be a great money-saver for textile operations throughout the country. Why not talk to a Cities Service Lubrication Engineer about whatever problems you may have? Call your nearest Cities Service Office or write Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

for
Trouble-Free Knitting
and
Good Color Matches-
use
Globe-Dyed
Cotton Yarns



Cotton yarns
dyed by
Globe
are your assurance
of bright,
clear colors,
good matches,
and superior knitting qualities.

1865 Globe DYE WORKS CO. 1954

Globe does package dyeing on tubes, skein and warp dyeing, warp mercerizing and sizing.

Yarns we process include cotton, rayon, worsted, nylon, linen, blend and novelty yarns. Also Acrilan—Dacron—Orlon.

4500 WORTH STREET, PHILADELPHIA 24, PA.
Jefferson 5-3301

or other conditions that cause shocks, and consider these factors. If you are operating on smooth floors without sills or other obstructions, you can apply a caster of lighter construction than you might otherwise use.

3. What are the operating conditions in regard to oil, grease, water, acid, and extreme heat or cold?

Special wheels will be recommended by your supplier for conditions such as these, and special types of greases should be used when casters operate in extreme heat or cold.

4. How much will the trucks be moved, how often, and how far? How much maneuverability is required in swinging around corners and down alleys?

When casters are used continuously, it is economical to use hardened-steel parts at the points of greatest wear to insure easy swiveling and long life. These points are the raceways that house the bearings in the top plate.

5. How much manpower push is needed?

Since men are the most expensive source of power, use as little manpower push as possible. Push can be cut down by increasing the size of the wheels and using antifriction bearings. Large wheels roll much easier than small ones.

Choose Casters by Load Limits

Here is a brief outline covering some applications and approximate load limits on 12 of the most commonly used wheels:

A soft-rubber tread vulcanized on a hard-composition core operates quietly and protects floors. The load limit is approximately 500 lbs.

Hard rubber on a fiber-composition tread and core protects floors and is nonsparking. The load limit is about that of semisteel wheels, which is up to 10,000 lbs.

Pressed-steel wheels, formed by welding molded disks, resist shocks of rough floors. The load capacity is approximately 2,000 lbs.

Steel and semisteel wheels forged or cast in various grades of steel have capacities up to 10,000 lbs., depending on requirements.

Semipneumatic wheels with hollow-center rubber treads (also known as cushion tires) are suitable for light duty and protect loads against shock.

Wood wheels constructed of hardwood wedges and held together by two steel plates give nonsparking floor protection and are easily rolled.

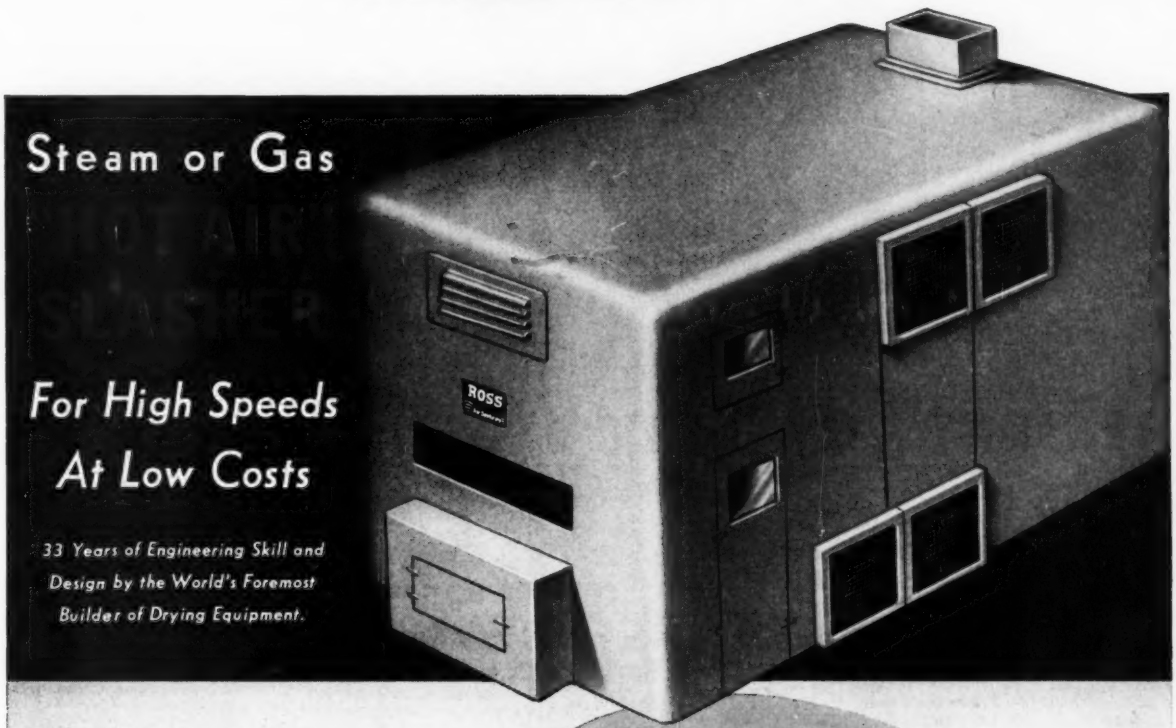
Aluminum alloy wheels supplied with metal or rubber treads reduce the dead weight of equipment. They're sparkproof and have a capacity of 2,000 lbs.

Wheels with canvas treads, consist-

For more information, write direct or use Reader Service post card.

ANNOUNCING THE NEW ADVANCED

ROSS ☆Rebel☆ DRYER


Steam or Gas
For High Speeds
At Low Costs
33 Years of Engineering Skill and Design by the World's Foremost Builder of Drying Equipment.
ROSS

Your New Slasher Should Have All These Important Features. Check and Compare! You Can't Top The ROSS REBEL DRYER.

1 **ACCESSIBILITY—All rolls and bearings located out of dryer housing. Access doors to all parts.**

2 **GREATER HOLDING CAPACITY—Five passes hold over 27 linear yards of warp. Optional three pass for lighter warp hold over 17 linear yards.**

3 **MAXIMUM PRODUCTION—With larger holding capacity, higher temperatures, greater air circulation, maximum production can be expected varying from 800 to 1600 pounds of dry warp per hour.**

4 **HIGH TEMPERATURES—Controlled temperatures up to 600° F. allows high temperature set in (2) individually controlled zones to insure dryness before warp passes over first roll.**

5 **MINIMUM EXHAUST—Up to 95% recirculation for greater efficiency and fuel savings. Balanced air distribution with controlled volume to insure against warp rolling.**

6 **MINIMUM FLOOR SPACE—Dryer housing is approximately 16' long, 9'-10" wide, 11' high. Model available for 54", 60" and wider warps.**

***Write** today for additional information on construction features and operating advantages.*

J. O. ROSS ENGINEERING CORPORATION

NEW YORK 22—444 Madison Ave.
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BOSTON 9—79 Milk St.
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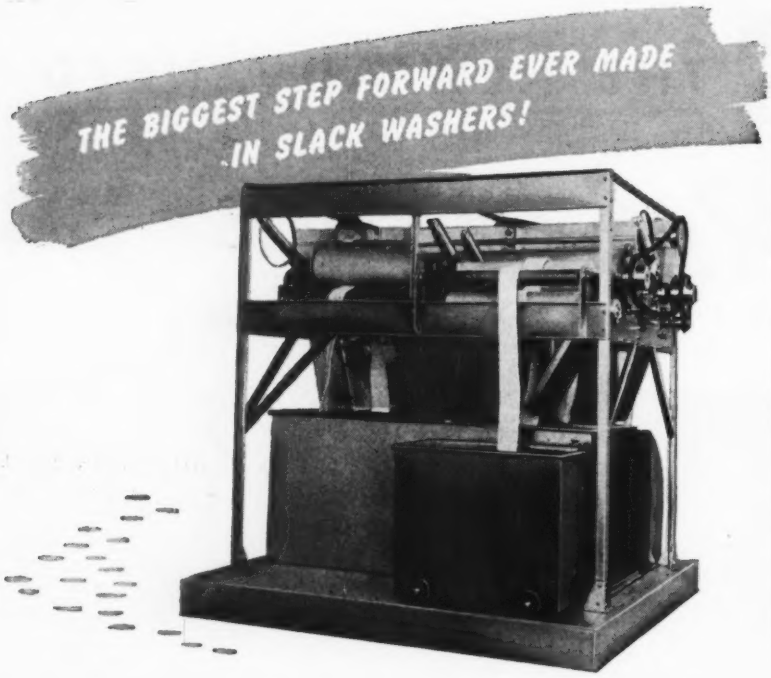


THE PROCTOR CON-O-MATIC WASHER

- **TENSION-FREE OPERATION**

  Tanks are automatically kept filled to the desired level through the use of tapered squeeze rolls.

- **EVEN AMOUNT OF FABRIC IN EACH TANK**

  Another automatic feature! Self-compensating rollers take the place of effort or attention on the part of the operator.

- **VERSATILE**

  The basic principle can be adapted to almost any liquid-processing of fabrics.

  No other slack washer offers as efficient operation as the Proctor Con-O-Matic Washer! And no other slack washer offers such simplicity of design to save you from frequent and costly maintenance. Here's an entirely new conception of a slack washer *. . . and it's tried and proved!*

  What's more, the basic principle of this machine can be adapted for almost any use where fabrics are processed in a liquid: as a saturator, in a dye process, and in many other processes. Let's talk it over—and see how the Proctor Con-O-Matic can improve your operation!

Proctor & Schwartz, Inc.

PHILADELPHIA 20, PA.

MANUFACTURERS OF EQUIPMENT FOR "REDMANIZED"® FABRICS AND THE PROCTOR CONTINUOUS BLEACH SYSTEM

For more information, write direct or use Reader Service post card.

ing of end canvas assembled in blocks and set radially on the wheel rim, are shock resistant, oil resistant, and noiseless.

Plastic wheels molded from macerated solids and impregnated with phenolin resins are nonsparking, acid resistant, and easy rolling. *Factory & Floor Truck Manufacturers' Association.*

Pointers for Supervisors

CONTINUED FROM PAGE 127

Address the Arbitrator

One trick that is hard to remember is to give your answers to the arbitrator and not to the person who is asking the questions. Usually the arbitrator sits at the head of a U-shaped table, with the company representatives on one side and the union representatives on the other. The witness normally sits at a table in the middle. The questions come at you from the side, and it is natural to turn your head toward the person who is addressing you. But the arbitrator is the man who will make the decision; so address your answers to him. And speak loudly enough so that he can hear you without straining. The best testimony in the world is no good if it can't be heard, and it's a nuisance to have to keep asking the witness to repeat what he just said.

Many arbitrators take copious notes on testimony. If you notice the arbitrator writing while you are testifying, slow down so he can get all you have to say.

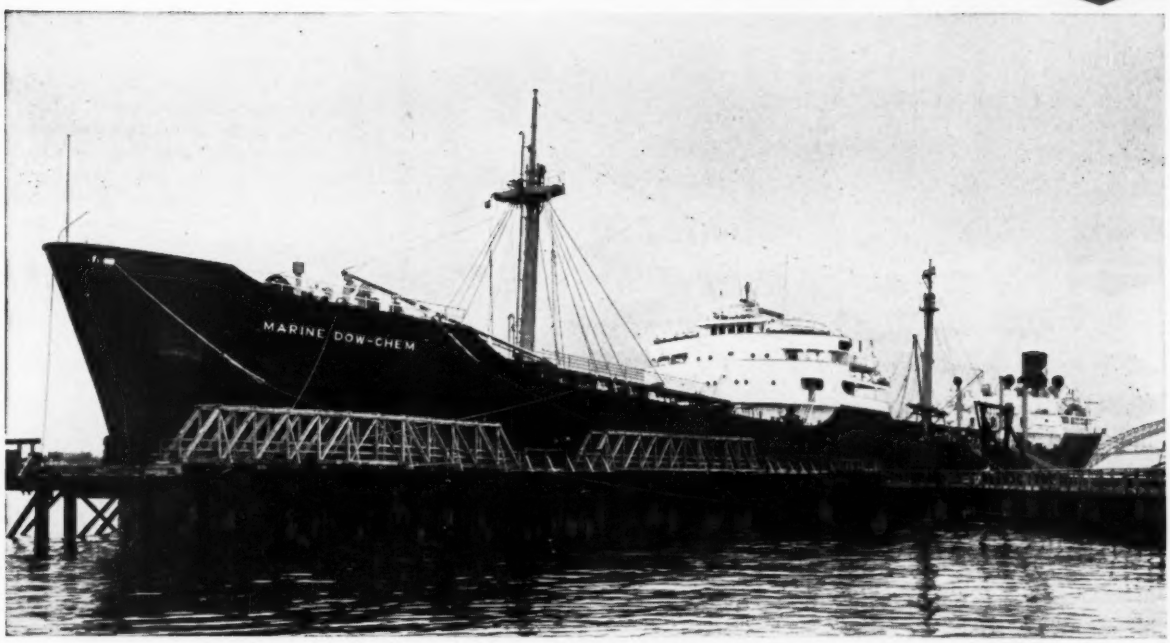
Keep Records—and Use Them

Usually an arbitration hearing takes place weeks, or even months, after the event being arbitrated happened. It is very difficult to remember what you said to an employee and what he said to you or to remember exactly what happened. It is vital to have as many facts as possible. Reports and records will help refresh your memory. Use them whenever possible.

Don't state anything as a fact unless you can prove it by records or unless you remember clearly and in detail exactly what happened. If you do state a vague memory as an exact fact, you'll be tripped up. The arbitrator realizes that no supervisor can remember everything he did and said and observed months ago. So tell what you know as a fact, and qualify your other statements by saying "as well as I remember" or "it seems to me."

Don't Get Personal

When you testify about an employee, speak objectively and without



S. S. Marine Dow-Chem on first arrival at expansive Bayonne Terminal.

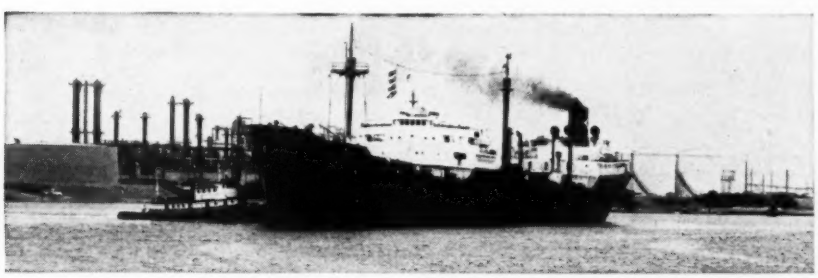
New Dow Ship and New Dow Terminals

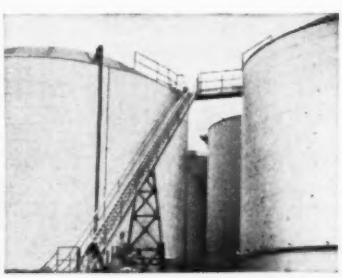
speed volume delivery of 73% caustic soda to users

The Dow Chemical Company now has extensive new caustic soda solution distribution facilities in operation. The *S. S. Marine Dow-Chem*, first tanker ever designed and built exclusively for the sea transportation of liquid chemicals, currently delivers 73% caustic soda in volume quantity to two new Atlantic seaboard bulk terminals, located at North Charleston, S. C. and Bayonne, N. J. Both this thoroughly modern 18,000-ton chemicals carrier and all terminal facilities for cargo unloading, storage and transshipment safeguard the uniform high purity of Dow's 73% caustic solution.

One hundred thousand pounds of commercially pure nickel were used in construction of the *Marine Dow-Chem's* caustic cargo tanks, pumpline and heating coils. Terminal storage tanks are fully nickel-clad, all loading and unloading pumps and lines are pure nickel. Nickel steam heaters keep 73% solution at the exact temperature desired.

This important distribution expansion means that Dow customers are assured even faster delivery—*another* good reason for placing that caustic order with Dow. THE DOW CHEMICAL COMPANY, Midland, Michigan.





New flagship of extensive Dow waterways fleet begins maiden voyage from Freeport . . . new nickel-lined tanks at Bayonne protect 73% caustic purity during storage.

you can depend on DOW CHEMICALS

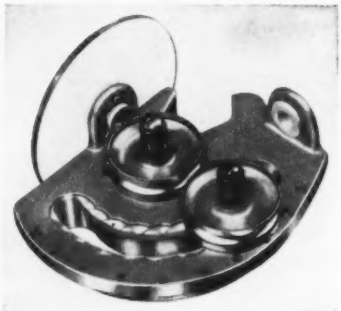
ONLY
McBRIDE
OFFERS... the big 3

CONTROLS FOR QUALITY

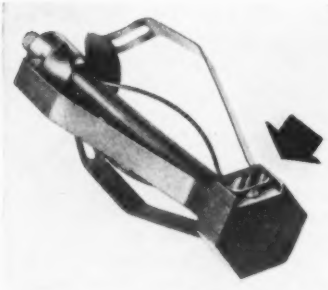
- TENSION-MASTER
- QUIK-CHANGE
- INSTANT STOP

McBRIDE CONTROLS mean greater profits, improved quality for you. McBride's consistent and continuing product development has again produced improvements on existing equipment. Let us show how these BRAND-NEW improvements can help you.

CONTROL #1



McBRIDE TENSION-MASTER provides a wide range of settings for tension control. Clearly numbered settings insure visual control for uniform tension of all ends. A glance aligns and checks settings of an entire row of units. Transparent shields defy snarling of ballooning yarn even at highest speeds.



CONTROL #2

McBRIDE QUIK-CHANGE cone holder newly designed to reduce changeover time from cone to tube, cone to bobbin, cone to pirn, etc. and vice-versa. A **PUSH-BUTTON RELEASE** reduces the physical effort in attaching or removing to a minimum. The cone holder revolves freely on spindle to facilitate tying of transfer tails.

CONTROL #3 **McBRIDE INSTANT-STOP** means fewer lost ends and reduction of warping time. **THE STANDARD and SUPER-SENSITIVE (for fine yarns) SEALED MERCURY SWITCH STOP MOTION** means better control and positive action. The totally enclosed double signal light is visible to both creeler and warper for prompt location of breaks.

The Big 3 are standard equipment on all McBride creels, and
CAN ALSO BE APPLIED TO CREELS OF OTHER MANUFACTURE
Write today for full information

COMPLETE ENGINEERING SERVICE ACCOMPANIES ALL McBRIDE INSTALLATIONS

Mc BRIDE
COTTMAN AVE. & WISSINOMING ST.
PHILADELPHIA 35, PENNSYLVANIA

CREELS *for every purpose,* **CONE HOLDERS, STOP MOTIONS TENSION CONTROLS • WARP BEAMS • METAL and WOOD ROLLS**

bias. If your words or tone of voice show that you dislike the employee, the arbitrator will get the impression that, if you speak with bias, you may act the same way.

Often the employee involved in an arbitration case is a poor sort of worker. Don't be nasty about him, whatever your personal feelings may be. Talk about him calmly, and give facts. Don't give your opinion of the employee unless asked to by your own side. And then tone it down. Say "His work is below average," "He has a poor attendance record," or "I have found it necessary to warn him before." And try to back up your opinion whenever possible by facts. Your side will bring them out.

Take Your Time

When you are being questioned by the union representative, take time to think before you answer his question. Decide if the question is loaded or if he is trying to put words in your mouth. You don't have to pop the answer the instant the question is asked. Sometimes a witness will be on the stand for 15 or 20 minutes (although usually it only seems that long), and the same question may be asked him three or four times in an effort to trip him up. It is phrased a little differently each time. Stop and think: Have I been asked this question before? What answer did I give? Then repeat your original answer or simply say, "I think I've already given you that information."

Be sure to listen to the testimony of other witnesses. Don't sit there and daydream while other people are testifying. If you don't listen to the other company witnesses, you may find yourself contradicting them. And if you don't listen to the witnesses for the union, you may miss some highly colored version of the truth, a misstatement of fact, or the omission of some point that may help your side.

Rehearsals Help

Before the arbitration hearing, the director of industrial relations will usually go over the case thoroughly with you. Give him all the facts you have; he will decide which ones are useful. Don't try to conceal facts that may show you up in a bad light. It's much better for him to know about them beforehand and decide how to deal with them than to have them brought out by the union and dumped like a bombshell into the case.

After the facts are collected and gone over with the company witnesses, they are usually typed out. The witness is given a copy to correct, if necessary, and to study—not so he can

For more information, write direct or use Reader Service post card.

1955

B★D

BRUSSELS
JUNE 25th
TO JULY 10th

This large-scale display of specialised goods will attract thousands of potential buyers, and will provide you with an unique opportunity for making business contacts and thus considerably increasing your sales outlets.

SECOND INTERNATIONAL TEXTILE EXHIBITION

TEXTILES - CLOTHING - MACHINERY
AND ALLIED INDUSTRIES

General Secretariat : 15, rue des Drapiers, BRUSSELS - Tel. 12.33.43

FOR ONE THING—

folks' feet
feel better

Floor of Northern Hard Maple in Greenville, S. C., plant of Judson Mills, division of Cotwool Mfg. Corp., Wilmington, Del., makers of dotted Swisses, lawns, ginghams and rayon and cotton fabrics.

ON A FLOOR OF foot-friendly NORTHERN HARD MAPLE

Foot-comfort isn't *everything* in a mill floor, of course. But you *do* get it in resilient, smooth, Northern Hard Maple. And with the unsurpassed *comfort*, Maple pays lifelong dividends of easy, brush-and-broom cleaning, low-cost maintenance, simple and swift refinishing. It fights traffic wear—scraping and scuffing and denting. It creates no dust or lint, and "there's always a new floor underneath." We're sure these are the reasons why Judson Mills chose MFMA-warranted Northern Hard Maple, as have so many other textile operators. MFMA inspection and grading care is maintained to everlastingly guard and justify your valued high opinion of "the finest floor that grows."

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 592, Pure Oil Bldg., 35 E. Wacker Drive
Chicago 1, Illinois

FLOOR WITH NORTHERN HARD MAPLE BEECH AND BIRCH

memorize his testimony but just so he can be sure he has his facts straight.

Then the director of industrial relations usually tells him what questions he intends to ask, indicates how he wants them answered, tries to figure out what the other side will ask the witness, and works out answers to those questions.

You will find that such rehearsals help a great deal and will do a lot to make you less nervous on the stand. If you know what is coming and are prepared for it, you will be much more at ease.

All in all, it's not a bad experience to be a witness. Just remember to tell the truth, keep your temper and your wits about you, and not talk too much. You'll be surprised how easy it is to be a good witness.

Small Raschel Plant

CONTINUED FROM PAGE 123

attached to the piece when the piece goes to the inspector. This system keeps an excellent record of production and also a close check on runner lengths.

Each piece is weighed before inspection and entered on a weekly production chart. This chart shows the production of all 12 machines for one week. The lot numbers are entered on the chart and checked off in their correct sequence as they come from the knitting machine.

A chart is kept in the office, and waste is checked from the figures from yarn tickets and the fabric piece tickets.

Inspection on Mill-Made Frame

The fabric is closely examined on the knitting machine, and all holes are sewed to prevent the fabric tearing during finishing. The fabric is inspected over a mill-made frame.

The frame has two side supports with bearings to receive the take-up rolls. A hinged flap on the front of the inspecting frame allows the frame to hold heavier and bulkier fabrics. A storage rack on the frame back will hold four beams that might accumulate during night-shift work.

Two strings are looped over pins on the frame back, and the fabric is pulled from the take-up roll and inspected against the black-painted frame. When the end of the piece is reached, the strings are removed from the pins and the ends are tied. The fabric is doubled and immediately placed in a carton for shipping.

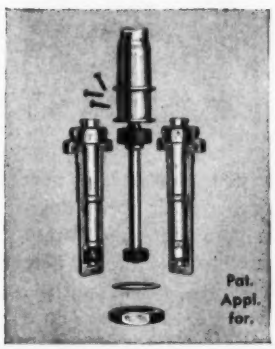
Mill Conditions Run Themselves

The mill is 120x90 ft. with a 14-ft. ceiling and is constructed of cinder

SPEARHEADING THE MOVE on ECONOMY

Ingenious engineering brings you a drastic investment saving with proven Hartford spindles. These new spindles feature an improved base—which contains the same precision running gear—and the same pre-lubricated, rubber-mounted ball bearings. With Hartford you eliminate spindle oiling. No attention is needed for an estimated 5 years. Yarn and floors are kept cleaner. Smoother running at high speeds is coupled with power reduction.

Examine and test this advanced new Hartford spindle in your own plant. Simply write our nearest office.



Ingenious new assembly features split-sleeve construction.

HARTFORD

MACHINE SCREW COMPANY, INC.

HARTFORD 2, CONNECTICUT

110 West McBee Ave., Greenville, S. C.

Spindles for Spinning, Filling, Twisting and Wool Spinning.

NEW Eccentric Cam Brake

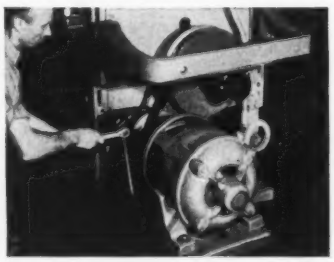
for ALL Hartford spindles . . . can be added ANY time. No spindle changes. Because of its cam action this hand brake STAYS SET.

 For more information, write direct or use Reader Service post card.

Adjust your Spinning Speeds without stopping the frame!

REEVES
VARI-SPIN DRIVE

●Now you can obtain new versatility, greater speed flexibility in your spinning frames . . . completely eliminate belt changes and pulley changes . . . cut downtime to an absolute minimum . . . simply by installing REEVES new Vari-Spin Drives using your present NEMA frame motors! REEVES Vari-Spin Drive gives you complete speed adjustability to provide the exact spinning speed you need for any yarn set without stopping the frame . . . *completely eliminates old-fashioned trial and error methods of "hunting" for exact speeds* . . . all in one compact unit which nests in narrow aisles!



TURN OF A SCREW changes spinning speed. Speed changes are immediate and positive . . accurate to a fraction of an rpm.

Send today for new Vari-Spin Bulletin W6-S-1

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

block with brick facing and a white stucco interior. A 4½-in. solid cement floor provides a good bearing surface for the machinery. A cement ceiling and an insulated asphalt roof help keep operating conditions constant.

Humidity conditions are controlled by an Abbeon Supply Co. humidification system. One unit controls the conditions over four knitting machines, and a unit is fixed over the creel. Each unit is fixed with three brackets to the ceiling girders. The humidity can be changed from a wall switch identical to the switches used for home heating.

The heating system is thermostatically controlled in the same manner from a Power-Rated oil furnace. Space is available in the boiler room for refrigeration equipment that is to be installed at a later date.

Since the oil tank for the furnace is kept full by the local oil fuel supplier and the Abbeon units are automatically supplied with water, temperature and humidity conditions practically run themselves in this new and growing mill.

Chatham's Finishing Plant

CONTINUED FROM PAGE 95

ing operation, its speed is approximately doubled and it travels back and forth through two sets of crushers. Slightly longer time of forward motion results in a delivery of 20 yds. of crushed cloth per minute.

The unit has been found to improve the appearance of piece goods by contributing to even dyeing and eliminating end-to-end shading.

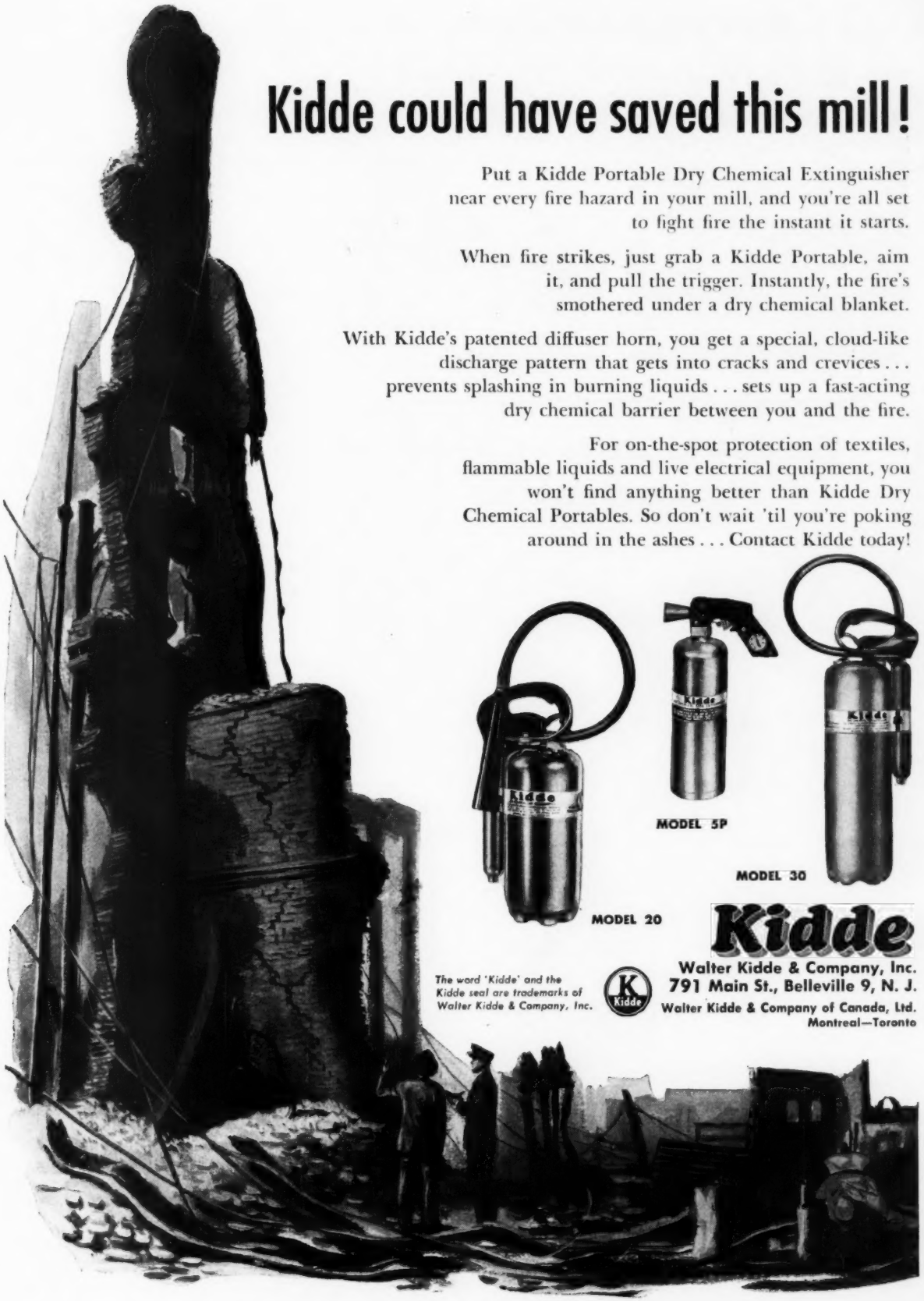
Fulling Mills Modernized

Performing the fulling operations are 10 fulling mills, with one man operating three machines. Seven machines are wood lined and three stainless steel throughout. Eventually the wood-lined mills will be replaced by stainless-steel models.

The stainless-steel fulling mills are equipped with rubber rolls. In general, stock-dyed material is processed in the wooden machines. White goods to be piece dyed are run in the stainless-steel mills.

Included in the washing equipment is a Riggs & Lombard nine-bowl stainless-steel continuous washer that works on the counterflow principle. This washer uses the first bowl for the scouring solution. Each bowl is equipped with an individual drive and an individual pump that operates the counterflow of liquid from bowl to bowl.

The unit has an automatic water



Kidde could have saved this mill!

Put a Kidde Portable Dry Chemical Extinguisher near every fire hazard in your mill, and you're all set to fight fire the instant it starts.

When fire strikes, just grab a Kidde Portable, aim it, and pull the trigger. Instantly, the fire's smothered under a dry chemical blanket.

With Kidde's patented diffuser horn, you get a special, cloud-like discharge pattern that gets into cracks and crevices . . . prevents splashing in burning liquids . . . sets up a fast-acting dry chemical barrier between you and the fire.

For on-the-spot protection of textiles, flammable liquids and live electrical equipment, you won't find anything better than Kidde Dry Chemical Portables. So don't wait 'til you're poking around in the ashes . . . Contact Kidde today!

MODEL 5P

MODEL 30

MODEL 20

Kidde

The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

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HAS YOUR LIGHTING KEPT PACE WITH PROGRESS?

You're always ahead with Sylvania Fluorescent Lamps because of The Bonus of Light

You get the maximum . . . the most light for your money . . . from Sylvania Fluorescent Lamps. Indeed, when properly installed with good ballasts, tests show that Sylvania lamps give a "bonus of light" worth more than the cost of the lamps themselves.

Remember, Sylvania is a leader in the development of fluorescent lighting and offers you an assurance of complete satisfaction or your money back.* You can't buy a better fluorescent lamp!

LIGHT FOR FREEDOM POWER FOR PROGRESS

* Try 24 Sylvania Fluorescent Lamps of any popular type. If, in your opinion they don't give more light and maintain color and brightness for a longer time than any other brand, send them back with your signed Certificate of Assurance and your money will be refunded.

SYLVANIA

Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

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LIGHTING • RADIO • ELECTRONICS • TELEVISION

control. If the machine is stopped, the water level remains constant. The machine washes fabric at about 45 yds. per min.

There are two scutchers for use after washing.

Drying Production Upped 25%

In addition to the dryer in the carbonizing range, there are four other tenter dryers used to dry cloth after washing or piece dyeing. These dryers operate like the unit used in the carbonizing range, and all but one of the dryers employ overfeed mechanisms.

One of the dryers is also used for rubberizing fabrics. In being rubberized, the cloth is lowered to contact a roll that revolves in a pan of rubberizing solution. A doctor blade removes the excess material from the fabric as it enters the tenter dryer.

On one of the Hunter dryers, the side-to-side motion of the start of the tenter frame is hydraulically controlled. Each side of the cloth runs partly over an orifice that expels air at about 5 psi. As long as the cloth covers half the orifice, there is no movement of the frame in and out. If the cloth widens and the orifice is completely covered, the tenter spreads out to re-establish the equilibrium. If the cloth narrows, the increase in air flow causes the tenter to narrow.

Chatham has ordered these controls for all its other tenter frames.

Stainless-Steel Dyebecks

The piece-dyeing equipment consists of 26 Riggs & Lombard stainless-steel dyebecks. There are 23 six-string machines and three 12-string units. One man operates three or four machines, depending on the dyeing cycle. Total production of these becks is 550 pieces 70 to 75 yds. long every 24 hrs.

Direct dyes are used for cottons, acid dyes for all-wools, and acetate dyes for blends containing synthetic fibers.

Temperature and the rate of temperature rise and fall are controlled automatically by a Foxboro Cyclelog.

Fabrics are also peroxide bleached in these units. Bleaching time is 4½ hrs., and the total running time for bleached goods is 6 hrs.

Instead of crabbing, a boiling operation is given to some fabrics, suitings for the most part. The fabric, rolled and covered, is immersed in boiling water; and steam is forced through the inside of the perforated roll from 20 to 30 mins.

Napping Equipment Modernized

The napping department, employing about 85 people on three shifts,

DU PONT

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

NEWS

NO. 2 — 1954

Quills Molded of Du Pont "Zytel"* Nylon Resin Eliminate Breakage, Warping, Reduce Wear

Bearings of Du Pont TEFLON® require no lubrication

Bearings of Du Pont "Teflon" are receiving increasing attention in design applications. Be sure to investigate the unusual qualities of this engineering resin material when designing textile equipment.

"Teflon" tetrafluoroethylene resin has a coefficient of friction lower than that of any other engineering resin material. This low coefficient is not affected by temperatures even up to 500° F and is virtually independent of load.

Here's an important point for textile machinery designers: because bearings made of "Teflon" are self-lubricating, the use of these bearings eliminates oil splatter on yarn or cloth. In addition to this property of self-lubrication, "Teflon" offers these many *other* advantages to the textile industry:

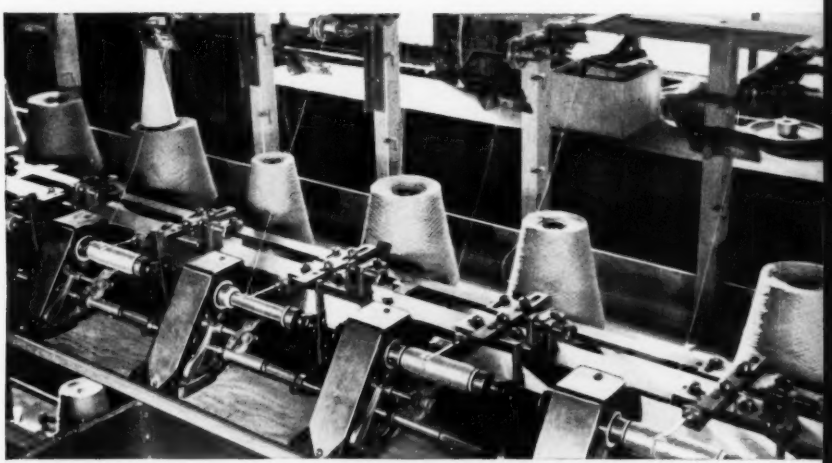
"Teflon" has good impact strength, and is tough and flexible over a wide temperature range — down to —450°F, up to 500°F.

Water absorption of "Teflon" is zero, by ASTM test D570-42.

"Teflon" will not crack, swell or shrink. It is inert to every chemical and solvent normally encountered in industry.

Write for further facts and design experiences involving "Teflon" tetrafluoroethylene resin. (See coupon on reverse side.)

Dependable quills of "Zytel" nylon resin help cut costs



Quills molded of "Zytel" nylon resin on fiber-winding machines at Murdock Webbing Company.

The foreman of the Murdock Webbing Company, Central Falls, R. I. was dissatisfied with old-style quills. They warped, they split and chipped. Power-driven nubs used for winding wore the holes out of round in wooden quills, resulting in uneven winding. Worse yet, these quills tended to break under tension of the fiber wound on them.

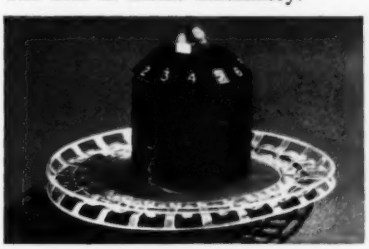
Knowing something of the unusual properties of Du Pont "Zytel" nylon resin, the foreman consulted with the Plastic Mold and Engineering Company, of Providence, for advice in developing wear-resistant quills made of this unique engineering material.

Quills were developed and molded of "Zytel" in a wide variety of sizes. One such quill is shown in cutaway view in the photograph. The quills are injection molded about an aluminum hub

(Continued on reverse side, col. 1)

Du Pont "Zytel" nylon resin useful for complex textile machinery parts

Because it can be molded economically into intricate shapes, without losing strength in thin sections, "Zytel" nylon resin finds a thousand and one uses in textile machinery.



Tension is exerted by magnetic force on this pulley molded of Du Pont "Zytel", and in turn on the yarn that passes around it.

Above is an illustrated example. The picture shows a yarn-tension brake pulley of complex design, injection-molded of "Zytel."

(Continued on reverse side, col. 2)

OVER

*"Zytel" is the new trade-mark for Du Pont nylon resin

DU PONT

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

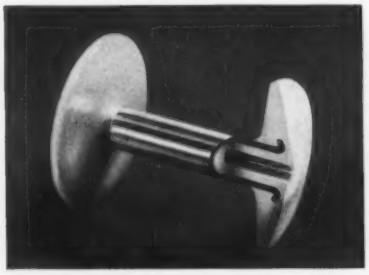
NEWS

NO. 2 — 1954

Quills of Du Pont "Zytel" (continued)

which assures rigidity.

These new quills do not wear out of round at the nub ends. They do not crack and snag the fiber. They do not break under tension set up by winding fibers on them.



One of several sizes of quills of "Zytel" developed by the Plastic Mold and Engineering Company. Note aluminum hub with flared ends, plus molded "Zytel" inside and out.

Investigate Du Pont engineering materials in your product development programs

One of the family of these versatile engineering materials is often a key factor in product improvement or new product design.

The wide range of properties available with "Alathon"* polyethylene resin, "Lucite"* acrylic resin, "Teflon"* tetrafluoroethylene resin, and "Zytel"† nylon resin are helping solve industrial design problems.

NEED MORE INFORMATION?

Clip the coupon for additional data on the properties and applications of these Du Pont engineering materials.

Nor are the quills of Du Pont "Zytel" nylon resin affected by operating temperatures or humidity. They are mass produced economically by injection molding.

In the weaving operation, where

Quills of Du Pont "Zytel" do not crack and snag the fiber, and virtually eliminate breakage.

fiber is unwound from them, the quills perform advantageously. The operator has no difficulty installing new, full quills without interrupting operations, as these sturdy quills of "Zytel" do not wear out of round or crack and snag the fiber.

As "Zytel" nylon resin has helped Murdock, it may help you. Write today for more information on the use of Du Pont "Zytel" in the textile industry, or use the coupon below.

Parts molded of "Zytel" (cont.)

The pulley has proved its durability under tension. It has demonstrated its resiliency, its thin-section strength, its ability to bounce back to its original shape even after appreciable deformation. Evaluate this useful material which needs little or no lubrication.

E. I. DU PONT DE NEMOURS & CO. (INC.)
Polychemicals Department
Room 187, Du Pont Building, Wilmington 98, Delaware

Please send me more information on the Du Pont engineering materials checked: ☐ *"Zytel"*; ☐ *"Alathon"*; ☐ *"Teflon"*; ☐ *"Lucite". I am interested in evaluating these materials for*

_____

NAME_____ TITLE_____

COMPANY_____

STREET ADDRESS_____

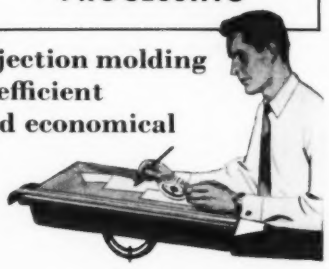
CITY_____ STATE_____

TYPE OF BUSINESS_____

*"Alathon", "Lucite", "Teflon" are registered trade-marks of E. I. du Pont de Nemours & Co. (Inc.)
†"Zytel" is the new trade-mark for Du Pont nylon resin.

POINTERS ON PROCESSING

Injection molding is efficient and economical



Injection molding, as a method of mass-producing parts made of Du Pont engineering resin materials, has been developed mainly within the past ten or fifteen years. And new improved techniques have accompanied that development.

Injection molding offers the advantages of close tolerances, high production rates, low unit cost, and usually does away with finishing operations. One important saving which has been effected by injection molding occurs when the molded piece replaces an assembly of two, three or more parts.

HIGH PRODUCTION RATE. Multi-cavity dies have been made which produce hundreds of identical pieces at a time. Molding time and cycle vary, of course, with the size of the part and its shape. The injection molding process is versatile, and is used to produce a wide variety of quality parts, rapidly and economically.

LOW UNIT COST. Another positive value of precision injection-molded parts is the low cost of fabrication per part. While the initial cost of the mold itself may be high, a mass-production operation makes the cost per piece low. Loss of molding material is generally low too.

NO FINISHING OPERATIONS. With good molding techniques, pieces can be injection-molded to close tolerances. In many cases, molded pieces require no finishing operations. Thus, large savings in time and expense can often be realized.

SIMPLIFIED DESIGNS. The versatility of injection molding often permits design simplification. Du Pont "Zytel" nylon resin, for example, can be injection-molded into intricate shapes, as well as around metal inserts. Du Pont "Alathon" polyethylene resin and "Lucite" acrylic resin can also be successfully injection-molded into a variety of useful forms. For more information about Du Pont engineering resin materials and how they are being used in industry, clip the coupon.

has also installed modern machines. New double-acting nappers have increased production 10 to 15%, and the quality of the napped blankets has also been improved.

Napping equipment consists of 28 Woonsocket nappers, 8 Davis & Furber nappers, and 1 teaseling gig. Of the nappers, about one-fourth are single acting and the remainder double acting.

Weaving Towels

CONTINUED FROM PAGE 79

the changes. Supervision and planning by the assistant overseers of weaving pay off here.

Weavers' Premium Helps Quality

The quality of the towels is held to rigid standards. Weavers are paid a premium for quality work. Maximum second-quality-cloth allowances for the three types of towels woven are: (1) wash cloths 5%, (2) hand towels 12%, and (3) bath and beach towels 18%. Many weavers receive the premium pay week after week.

These second-quality-cloth figures aren't final seconds because many of the towels are mended in the sewing room.

Yarns used in weaving are all package dyed. The 16 colors used are mostly pastel. Yarns are carded, spun, twisted, and package dyed in the same plant where they're woven. The twist multiplier is controlled to insure a soft hand and proper moisture absorbency.

Warp yarns (except the terry yarns) and filling yarns are both the same. The added expense of the higher-priced filling yarns is offset by the standards set in processing all the yarns because fewer types of yarns have to be manufactured.

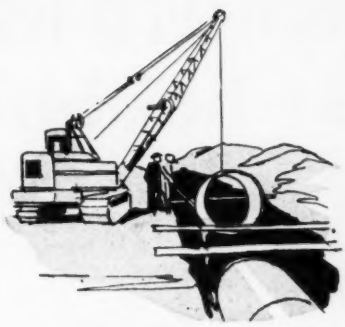
Since all yarns are package dyed, all filling is necessarily rewound; and as a result, weaving conditions are improved.

Rigid Inspection Pays Off

Woven cloth is inspected in the gray on fluorescent-lighted vertical grading machines after it is run through the shearing machine. Second-quality cloth found here is sent back to the weave room and is shown to the weaver or loomfixer responsible. The second-quality-cloth report is also made here to determine weavers' premiums.

Cloth goes from the cloth-inspecting frames to a bleach range where it is given a half bleach. Then it is dried in a Proctor & Schwartz loop dryer.

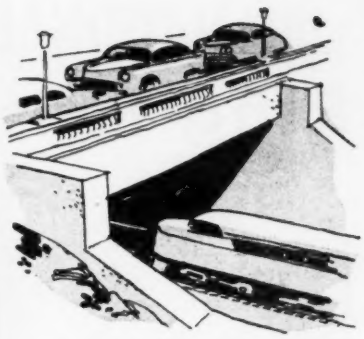
The sewing-room operations begin



. . . local-governmental program of expansion and civic improvement:

7 Projects Actually Underway
Totaling $13,050,000

6 Projects in Active Planning
Totaling $13,250,000



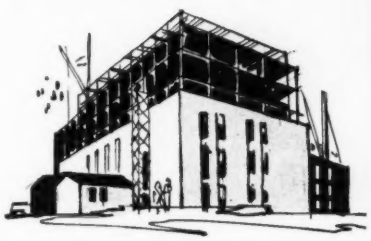
. . . local-state-Federal-governmental jointly sponsored improvement program:

3 Projects Actually Underway
Totaling $16,300,000

4 Projects in Active Planning
Totaling $65,500,000

Over $120 millions GOING into GROWING . . .

newest evidence that Evansville's *right* for *your* new plant site . . .



. . . privately sponsored institutional and commercial major construction:

5 Projects Actually Underway
Totaling $11,700,000

2 Projects Under Consideration
Totaling $ 3,600,000

WHAT BETTER PROOF — that Evansville, Indiana is growing *your* way — than the accompanying "recap" of new construction! And all this is exclusive of the many millions more that Evansville industry is investing in new expansion!

Each of these *definite* projects further balances the scales in favor of "Balance Point, U. S. A." . . . both as a logical location for your new plant and for good living in fullest measure. Each is detailed in a special bulletin which we'll be happy to send you. Of prime interest too — to any industry "prospecting" for the *right* plant site — are the Straight Facts folders and full-color sound film listed in the coupon below. All are yours for the asking.

PLEASE MAIL COUPON NOW!

EVANSVILLE'S COMMITTEE OF 100, INC.
145 Locust Street, Evansville 8, Indiana

Send me free in strictest confidence the following as checked:

☐ Straight Facts Folders ☐ New Projects Bulletin
☐ Print of sound-color film, "Balance Point, U.S.A."
☐ Contact me to arrange showing of film by your personal representative.

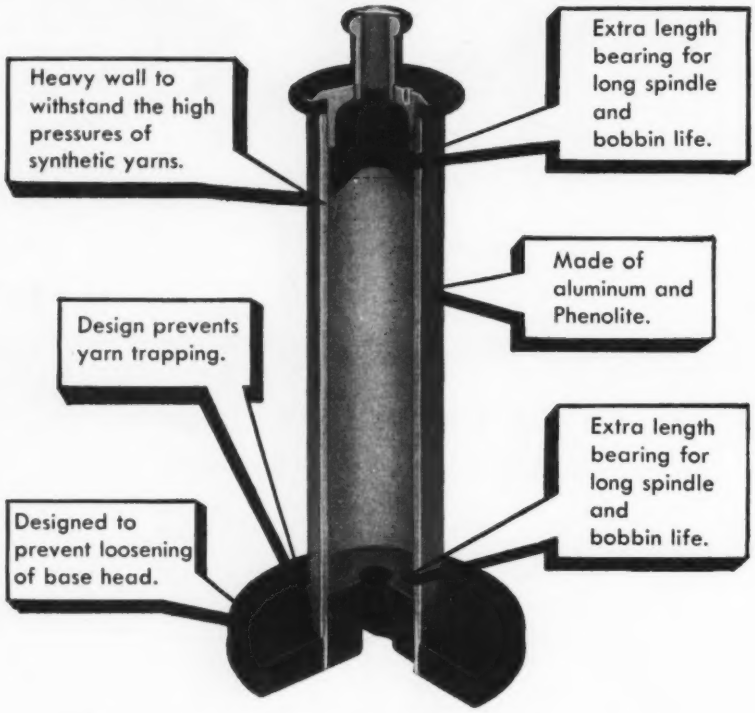
NAME _____
ADDRESS _____
CITY _____ ZONE ___ STATE _____

Evansville's Committee of 100. INC.
145 LOCUST STREET
EVANSVILLE 8, IND.

EVANSVILLE INDIANA
"BALANCE POINT, U.S.A."

For more information, write direct or use Reader Service post card.

NEW NATIONAL HIGH SPEED 10B Ring Twister Bobbin


Heavy wall to withstand the high pressures of synthetic yarns.
Extra length bearing for long spindle and bobbin life.
Made of aluminum and Phenolite.
Design prevents yarn trapping.
Extra length bearing for long spindle and bobbin life.
Designed to prevent loosening of base head.

Gives you the Most Bobbin for your Dollar

OTHER FEATURES

This new National 10B Ring Twister Bobbin (also made for 5B's) is the result of a year's research work.

It is unaffected by the high pressures of synthetic yarns. Its concentricity and construction eliminate the need for balancing. Since the bobbin runs more smoothly, both spindles and bobbins last longer.

The new bobbin may be knocked down and the heads replaced, should this become necessary.

The aluminum barrel can be furnished case hardened to prevent scoring.

Write us today for descriptive folder and prices.

NATIONAL VULCANIZED FIBRE CO.
Lestershire Spool Division
140 Baldwin Street **Johnson City, N. Y.**

BRANCH OFFICES AND TECHNICAL SERVICES:
National Vulcanized Fibre Co.

New Haven, Conn. Chicago, Ill. Baltimore, Md. Detroit, Mich.
St. Louis, Mo. Philadelphia, Pa. Pittsburgh, Pa.
New York, N. Y. Rochester, N. Y. Cincinnati, Ohio Cleveland, Ohio

Greenville Textile Supply Co. Greenville, S. C.
Odell Mill Supply Co. Greensboro, N. C.
National Fibre Co. of Canada, Ltd. Toronto, Ontario

with cutting the cloth into individual towels. The first towel cut from each **roll of woven cloth is hemmed and** given to a classifier. The classifier measures the cloth for over-all length and width and checks it for correct weight. Then she checks the shade under Macbeth lamps in her inspection booth.

Towels too long, too short, or of substandard width are sent back to the loom they came from with a list of defects attached. Then weave-room second hands see that the trouble is corrected. Generally, the trouble from uneven lengths comes from the let-off of the loom or from uneven warp tension. In extreme cases, box chains are corrected to give the proper length.

After the classifier okays the first towel off each roll of cloth, the cloth loses its identity as far as the weave-room personnel are concerned. Following cutting, towels are hemmed and then given a final inspection.

Callaway labels are added, and the towels are packaged and shipped.

Weaving at Chatham

CONTINUED FROM PAGE 93

Daily-production and second-quality-cloth reports are kept to show how each style of cloth, each section of looms, and each weaver's set of looms compares with others. The loomfixer instructor can quickly spot the trouble and correct it when a style of cloth or a set of looms is running bad.

Weekly production and quality sheets are posted in the weave room by sets and sections of looms.

Fabrics Vary Greatly

All types of blankets are woven at Chatham. The blankets are all-cotton, cotton and wool, all-wool, wool-and-synthetic-fiber blends, and synthetic-fiber blends.

Automobile-upholstery fabrics are woven from wool and worsted yarns, wool and nylon, wool and rayon, and all-synthetic-fiber blends in nylon, rayon, acetate, Orlon, etc. Many of the woven materials are in bold checks or stripes. Dope-dyed-acetate filling decoration yarns are often used.

Typical upholstery fabrics made of woolen-system yarns are 83% wool and 17% staple nylon; 62% wool, 16% cotton, and 22% nylon; and 20% nylon and 80% viscose. Typical upholstery fabrics made of worsted-system yarns are 20% nylon, 52.5% cotton, and 27.5% viscose; and 71.4% viscose, 18.4% nylon, and 10.2% acetate.

That's just a small sample of the variety of upholstery materials being

run on looms side by side with the large variety of blankets and women's wearing apparel.

Even with the large number of styles, Chatham keeps the looms in good mechanical condition and set right to keep the weave room rocking along at high efficiency and banging out high-quality fabrics.

Electrical Equipment

CONTINUED FROM PAGE 119

At each plant where we have installed planned lighting, we have standardized on the type of lighting fixture to conform to the most prevalent-type fixture already being used in the plant. By this practice, we have reduced the number of different spare parts such as starters, lamps, and lamp sockets that have to be kept in stock. Where fluorescent lighting has not been used previously, we use two 85-w.-tube open units.

Power Loads Are Balanced

As the lighting levels were raised, the power needed for lighting was increased. In some cases, the need was doubled or even tripled. The old lighting circuits had to be replaced with new circuits with shorter runs and less voltage drop.

The large oil-filled outside transformers were replaced with smaller dry-type transformers placed inside the mill as close as possible to their respective load centers.

The increased number of lighting transformers brought the problem of balancing the load on the three-phase power supply. To eliminate this problem, we divided all large areas, such as a spinning room or weave room, into three equal parts with respect to the lighting load. Then we used three dry-type transformers, one for each phase.

Where the load is not large enough to split up, we try to balance the load with other areas served by the same circuit. This practice has resulted in balanced lighting loads. In some plants where the supply voltage varied greatly, we installed voltage regulators on the lighting circuits.

Machine Drives Are Improved

Other modernization projects include individual motor drives on equipment such as spinning frames, looms, twisters, slubbers, speeders, and some new card installations.

One of our spinning rooms that had always been driven with four-frame drives was converted to individual drives. But we had a problem of finding enough space for the motors since the aisle space was limited. In other

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SHEPARD NILES
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Controls: Pendant Rope, Push Button, Outrig, Remote.
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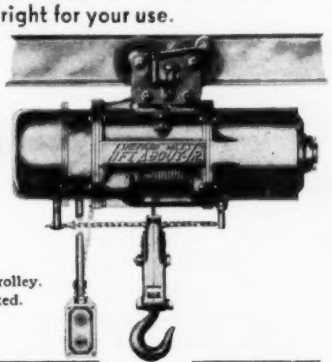
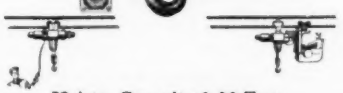
IT PAYS to choose the right hoist for your lifting job . . . the wrong choice can be costly! Let a Shepard Niles representative guide you in selecting the hoist that best suits your needs. He's a specialist in through-the-air handling . . . knows which model, capacity and controls will be right for your use.



Light Service
SHEPARD NILES
LIFT ABOUT-JR.

Types: Lug Suspension, Hook Suspension, Push Trolley.
Controls: Single Speed, Push Button, Rope Operated.
Capacities: 250, 500, 1000, 2000 lbs.

CRANES: Capacity 1-450 Tons



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With a carefully-planned special set of Snap-on loom fixer's tools such as these, a good loom fixer is a more valuable man —for the mill as well as himself.

He's a safer man on the job, because he's got the *right* tools—tools that fit properly, balance right, don't slip. He's faster on the job because Snap-on Tools bring out all the natural skill in a man's hands. He's surer, because, whatever the adjustment or repair, he has the tools to do it *right.*

He's a real profit factor, because his looms will show fewer breakdowns, less down-time, less sub-standard production.

The Snap-on factory-trained tool man is *always* at your service, between his regular visits. Tool surveys or special tool consultations cost you nothing. Write for address of nearest Snap-on factory branch.

SNAP-ON TOOLS CORPORATION

8100-G 28th Avenue, Kenosha, Wisconsin

*Snap-on is the Trademark of Snap-on Tools Corporation.

spinning rooms, we had put the motors in the aisles.

We solved the problem by jacking up the frames 2 ins. off the floor, and then we put the motors underneath the frames. Some of the frames have been in operation about two years and have given no trouble.

The old friction-type drive on our slashers is a thing of the past. Multi-motor-type drives are now being used for this application and are giving good results. Most of the present drives are the rototrol or amplidyne type. However, our latest installation uses the magnetic-amplifier control. This control is very satisfactory so far.

Electronic Controls Are Used

Instrumentation and electronic controls are becoming an important part of our operations. Such things as slasher instrumentation for detecting, recording, and in many cases automatically controlling the moisture content of the yarn are helping us do a better job of weaving. Higher-quality fabrics result.

The application of instrumentation to process control is proving a valuable aid in dyeing, size cooking, etc. Electronic instruments in the laboratory are doing a good job in testing sliver, roving, and yarn for evenness.

Electronically controlled apparatus such as bow and weft straighteners are becoming integrated parts of our finishing ranges.

All these electronic instruments used in conjunction with our other modern electrical applications are helping us produce better yarns and fabrics at lower costs.

We're keeping a sharp lookout for other new equipment and new methods that will help us keep our plants electrically modern.

Shadow Streaks

CONTINUED FROM PAGE 85

woven rather than the very first cloth off the loom.

With these facts in mind, plus the fact that for want of a better gauge the normal practice today is for the slasher operator to judge tension on yarn from section beams by hand, there is little reason for surprise when shadow streaks are found. Slasher operators may be most diligent in equalizing brake weights on beams, but some of the other factors mentioned may come into play and affect considerable yardage.

In measuring yarn tension on individual section beams, we use the slasher tensiometer shown in the accompanying photograph. This tensi-

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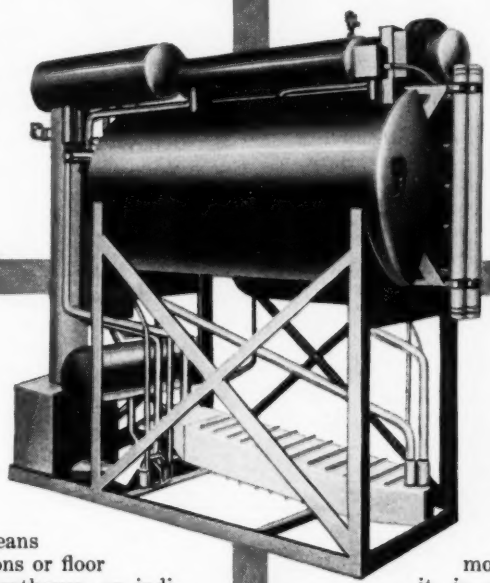
1

Regardless of cooling needs

The adaptable Servel 25-ton Water Chiller uses water as the refrigerant—provides economical cooling for *air conditioning*, *process cooling*, or *industrial pre-cooling*. Your Servel dealer can show you performance figures on applications most similar to your needs, in any of the three fields.



2

With the most economical fuel

Steam from the most economical source—gas, oil, LP gas, even *waste* heat—operates the unit, by Servel's exclusive, no-moving-parts *absorption* principle of refrigeration. This wide choice assures you of low operating costs . . . as does Servel's high operating efficiency.

3

Under every installation situation

Light floor loading and vibrationless operation means that no special foundations or floor braces are needed—in penthouse, on individual floors, or in basement. Simple piping, instead of expensive duct work, cuts installation time and costs. Zone control is unusually easy.

4

With exclusive assurance of satisfaction

The Servel Water Chiller cooling system has no moving parts to wear, thus it is quiet and vibration-free. Every Servel Water Chiller is backed by a 5-year warranty. See your Servel dealer or mail coupon for information and engineering co-operation.

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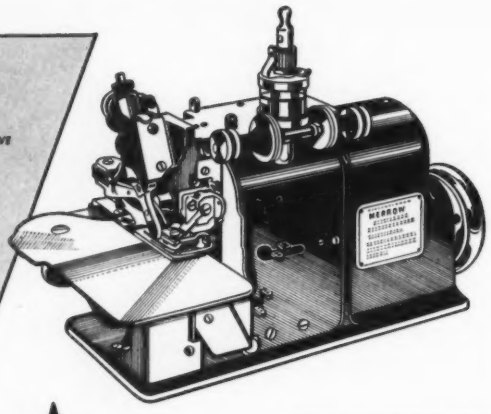

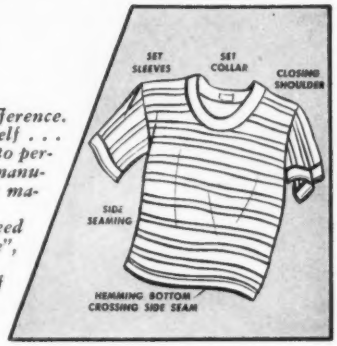

It's their versatility that makes the difference. "Merrows" don't collect dust on the shelf . . . their flexibility enables the same machine to perform a variety of operations. To you as a manufacturer this means higher production per machinery dollar invested.
Simplicity and rugged design of high speed Merrow Machines mean minimum "down time", provide you with a bonus in production.
We will be glad to demonstrate the work of these machines on your own garments.

In outerwear manufacturing, Merrow Class A Machines are extensively used on: polo shirts, sportswear, children's and infants' wear, bathing suits, sweaters, trousers and knit dresses. They are used on a wide variety of materials, including woven fabrics, knit fabrics of various construction, cotton, wool, rayon, nylon and other synthetics.
Applications of Merrow Machines include overseaming, hemming, overedging, serging, crochet and shell stitch edge finishing and shirring. Guides are available for attaching tape, cord, elastic, lace, borders, collarettes or rib material.

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ometer was recently developed by the Textile Research Dept., American Viscose Corp., and a commercial model has been produced by Sipp-Eastwood Corp. This instrument can be used with one hand and applied to either edge of the sheet of yarn at the section beam. It measures tension on the sheet of yarn traveling at normal slasher speed.

With the jaws open, it is inserted for a full 4½ ins. of width from the edge of the yarn sheet; then with the jaws closed, readings are made. Actual readings vary according to how much brake weight is on the beam, the denier of the yarn, and the ends per inch. The important point is that all beams within a set should have the same yarn tension.

We have found the slasher tensiometer a useful tool for uncovering existing causes of tension variation, and its regular use provides a reliable check on tension control.

TOE of Alabama

CONTINUED FROM PAGE 90

Average Life of Parts Is Shown

Mill D–"Each supply item is in a separate bin. Each bin is numbered, and we have a set of master books with a sheet for each bin. The sheet contains this information: a list of supplies for the item, the date supplies were ordered, name of the supplier, date supplies were received, net price, date issued, balance on hand, number issued per month, yearly consumption, minimum and maximum number, departments using the item, part number, make, catalog number, and item. There is also a space for remarks.

"Our supply and inventory-control man records day-by-day supplies issued by each department. A monthly report, given to each department and to the main office, shows the cost of parts consumed each month.

"Weave-room reports show the parts used on each section and on each model of loom."

Mill E–"Individual inventory cards are kept on all stock items, and these cards are divided as nearly as possible into accounts such as machinery maintenance, manufacturing supplies, mill supplies, process materials, etc.

"Supplies are issued by slips signed by department overseers or their authorized agents. The slips are used to keep records of supplies issued by shifts, departments, and sections. After this information is taken from the slips, a weekly report is made of the supplies used.

"From these records, other records are made to show the average loom-hour life of checkstraps and shuttles."

Useful Accessories For Textile Mills

▶ To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Rotary Selector Switch

New subminiature rotary selector switches are available from Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill. Virtually any switching sequence is said to be possible. (U-1)

Small Cooling Tower

Small cooling towers with a 15-ton capacity are being manufactured by Acme Industries, Inc., Jackson, Mich. The units are said to conserve 95% of the water used if no tower is installed. (U-2)

Heavy-Duty Limit Switch

A new two-circuit heavy-duty limit switch has been introduced by Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill. A feature is said to be a field-adjustable roller-arm actuator. (U-3)

Microbiological Protection

Sodium pentachlorophenate is available in laboratory lots for experimental purposes from Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. The chemical is said to be effective in meeting the problems of microbiological attack on textiles. (U-4)

Steel-Reinforced Flooring

A packaged-unit heavy-duty flooring is announced by United Laboratories, Inc., 16801 Euclid Ave., Cleveland, Ohio. Called Steel-Rock, this new flooring combines a heavy steel mesh and special filler as a complete unit for surfacing floors subjected to extra abuse—new or old surfaces of wood or concrete, inside or outside, at a depth varying from $\frac{3}{8}$ to 1 in. (U-5)

Steam-Turbine Stop Valve

A safety stop valve has been developed by Coppus Engineering Corp., Worcester, Mass., for its line of steam turbines. This improved stop valve functions entirely independently of the constant speed governor and eliminates the usual levers between safety trip mechanism and shut-off valve. (U-6)

Maintenance Tool

Automatic wire strippers that don't require holding devices have been introduced

Fruit of the Loom Textiles

Hi-Jacs

Chix Cheesecloth

YOU CAN TELL A HAYSSEN-WRAPPED PACKAGE BY THE WRAPPING IT KEEPS!

easy, automatic operation

Regardless of size or shape, you get a neat, tight wrap on every package with a Hayssen automatic wrapping machine. *Wrapping's easier!* Also, production men report savings up to 80% over previous wrapping costs.

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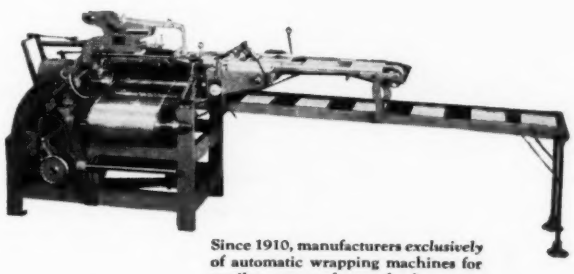
No complicated adjustments from size-to-size on a Hayssen. No gears or sprockets to remove or change . . . no need for expensive mechanics to change size, either. So simple the operator does it on the job.

more sturdily built

Hayssen's simple, rugged design, using fewer moving parts, keeps these machines working and saving through years of dependable, trouble-free service. Every moving part is in the open and easily reached for maintenance and cleaning.



Since 1910, manufacturers exclusively of automatic wrapping machines for textiles, paper, frozen foods, meats, vegetables, and many other products. Whatever your product, Hayssen can solve your wrapping problem. WRITE today for more information.

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the quick trip ticket for rolls of cloth

*traveling lengthwise

rolls of cloth move safely and surely on

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The Alvey conveyor is efficient and work-saving. Space is conserved, and travel time is reduced from one department to the next.

This is another of the many specialized systems which Alvey can provide to save time, space and operating costs in your textile mill. Your letter will bring an Alvey engineer to explain the advantages of an engineered conveyor system in your operations. Write today!

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BRANCH OFFICES IN PRINCIPAL CITIES

154

by Holub Industries, Inc., Sycamore, Ill. The device strips all kinds of building and fixture wire with a single squeeze of the handles. Sizes are available for stripping Nos. 8 to 30 solid and stranded wires. (U-7)

Roller Conveyors

Roller conveyors for heavy loads are being manufactured by The Rapids-Standard Co., Inc., Grand Rapids 2, Mich. The conveyors, designed for permanent installation, are available in 154 straight-section models and 38 curves. Widths: 12 to 51 ins. Roller spacing: 2¼ to 12 ins. Capacity: 250 lbs. per roller in normal use. (U-8)

Self-Priming Portable Pump

A portable pump for liquid transfer, fire fighting, and dewatering pits and flooded areas is being offered by Kenco Pump Co., 1125 N. Ridge Rd., Lorain, Ohio. It is self-priming but has no valves or moving parts other than the motor, pump impeller, and seal. It delivers over 100 gals. per min. at lowest head, and it will force water to a height of 100 ft. The pump will lift up to 25 ft. (U-9)

Visual Sequence Annunciator Analyzes Cause of Shut-Down

A new type of annunciator system, which automatically indicates the sequence of off-normal alarms, has been announced by Panalarm Products, Inc., 631 N. Broadway, Chicago 40, Ill. The sequence-indicating annunciators indicate the first variable to go off-normal. This is done by automatically locking out subsequent signals or by causing the first signal to be red and subsequent signals white. Systems with 3 to 48 signals are available. (U-10)

Faster-Lifting Fork Truck

Spacemaster Model M electric straddle lift trucks, made by Lewis-Shepard, Watertown, Mass., are now equipped with twin lift motors, which increase the lifting speed by more than 100%. (U-11)

Overlocking-Machine Gauge

A gauging attachment for overlocking machines, designed to eliminate the extra production problems of bar tacking and trimming loose ends, has been introduced by Pola Enterprises, Mt. Holly, N. J. Models are made for Merrow, Wilcox and Gibbs, Singer, and Union Special lockstitch machines. The gauge is said to be easily installed and easy to operate. (U-12)

Protective Coating

"Clean the surface and just brush or spray it on," are the directions for applying a protective coating recently introduced by Babbitt Steam Specialty Co., Babbitt Square, New Bedford, Mass. A single coat of Formula 67 is said to cover, seal, and protect metal, wood, glass, brick, unglazed tile, cement, concrete, and other masonry. The multipurpose coating is acidproof, rust resistant, waterproof, alkaliproof and greaseproof. (U-13)

Indelible Colored Inks

Indelible colored inks that will withstand the solutions and temperatures of modern industrial processing have been

announced by DRIflo Mfg. Co., 642 E.

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can be applied over new or old surfaces, inside or outside. (U-71)

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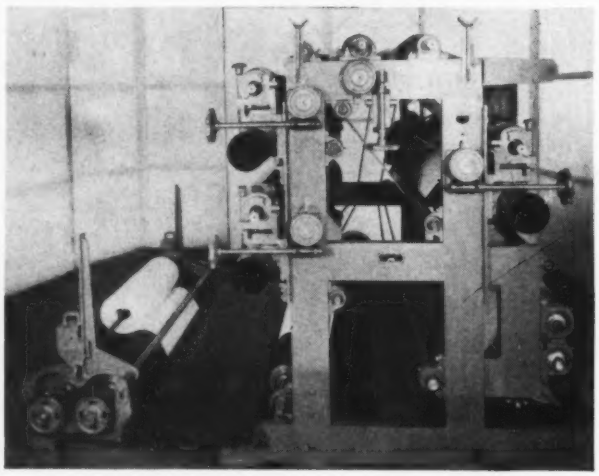

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NEVER MISSES
GETTING EVEN
LONG THREADS

No
Hand Trimming

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FAMED CLOTH DESPECKER

Patented Revolvers Create Strong Suction At Shearing Point Pulls Threads in Securely. Shears Entire Length of Cut. No Cloth Damages or Oil Spots. Less Blade Wear and Repair Costs.

PARKS & WOOLSON MACHINE CO.

SPRINGFIELD, VERMONT

announced by DRIflo Mfg. Co., 642 E. Ten-Mile Rd., Hazel Park, Mich. The new inks are designed for color-code identification of fabrics, for marking tags, and for any industrial purpose where colors must survive water, steam, solvents, bleaches, and alkalis. Twelve colors are available. (U-14)

Waterless Hand Cleaner

A new antiseptic hand cleaner for industrial use has been developed by West Disinfecting Co., Long Island City, N. Y. The hand cleaner is made of sulfonated vegetable oils, which are often used in the treatment of industrial dermatitis, and unsulfonated vegetable oil, which acts as an emollient and keeps the skin from becoming defatted. It also has 2% hexachlorophene, an antiseptic. (U-15)

Stainless-Steel Float Trap

A completely stainless-steel float trap for draining corrosive liquids from air, gas, and steam piping systems has been developed by V. D. Anderson Co., 1935 W. 96th St., Cleveland 2, Ohio. The tap is said to drain liquids as fast as they are formed without loss of air or gas. Pressure: 300 lbs. Maximum temperature: 800° F. Sizes: ½ to 2 ins. (U-16)

Low-Cost pH Meter

A line-operated pH meter that sells for $115 has been put on the market by Photovolt Corp., 95 Madison Ave., New York 16, N. Y. The low price is possible because of recent advances in electronic tubes and circuits. Accuracy and stability are said not to have been sacrificed. (U-17)

Wire-Mesh Conveyors

Wire-mesh belt conveyors, power driven and made in a wide variety of widths and lengths, have been added to the complete line of conveyors manufactured by the Sage Equipment Co., 130 Essex St., Buffalo 13, N. Y. Both stationary and portable installations are available. (U-18)

High-Voltage Testers

Pocket volt-ampere testers are available in three new high-voltage models from Pyramid Instrument Corp., Lynbrook, N. Y. Voltage ranges are 0 to 150 and 0 to 600 v. a.c.; ammeter ranges are 0 to 25, 0 to 50, or 0 to 100 amps. a.c. Price is $19.85, including leads. (U-19)

Racks for Palletized Goods

Storage racks for stacking pallets of goods are made by Leebaw Mfg. Co., 67 Wayne Ave., Youngstown 2, Ohio. The capacity of a typical base unit is 1,500 lbs. (U-20)

Steel-Reinforced Flooring

Steel-Rock, a heavy-duty flooring made by United Laboratories, Inc., 16801 Euclid Ave., Cleveland, Ohio, is made in packaged units of steel mesh and a filler. The filler contracts to the level of the steel under wheel pressure. Steel-Rock

For more information, write direct or use Reader Service post card.

can be applied over new or old surfaces, inside or outside. (U-21)

First-Aid Tweezers

Tweezers attached to a 4x-magnifying glass have been developed by Hilco Engineering Co., Genoa City, Wis. The instrument is helpful in removing splinters and bits of metal. (U-22)

Nonplasticized Valves

Nonplasticized needle and globe valves in sizes ⅛ to 2 ins. are available from Atlas Mineral Products Co., Houston 20, Tex. (U-23)

Cable-Splicing Tape

Cable-splicing tape is available from CSI Sales Co., Solon Center Bldg., Solon, Ohio. The tape is impervious to copper, has a 19,000-volt dielectric strength, and is acid resistant. Many splicing jobs can be done by pinching the tape on lengthwise. (U-24)

Pulsation Dampener Cuts Gauge-Pointer Jitters

An improved pulsation dampener for gauge and governor lines has been developed by J. A. Campbell Co., 645 E. Wardlow Rd., Long Beach, Calif. The dampener minimizes gauge-pointer jitters. It is made with ¼- or ½-in. female threads. (U-25)

Lightweight Ladder

A magnesium ladder is available from Abbeon Supply Co., 179-71 Jamaica Ave., Jamaica 32, N. Y. A working platform is built 2 ft. from the top. A 6-ft. ladder weighs 12 lbs. and costs $29. Other sizes: 4 to 10 ft. (U-26)

High-Pressure Air Valve

The Airchek valves made by Pennsylvania Pump & Compressor Co., Easton, Pa., are now available for pressure service up to 500 psi.-ga. The valves automatically open when an air compressor is started, and no stop or safety valve is necessary. (U-27)

Improved Roller Bearings

SKF's improved spherical roller bearings last 2 to 3½ times longer and have a 25 to 50% more capacity than the older models. Size and weight of the bearings are the same, but longer rollers are used. Manufacturer: SKF Industries, Inc., Philadelphia 32, Pa. (U-28)

Electrode for Instant Heat

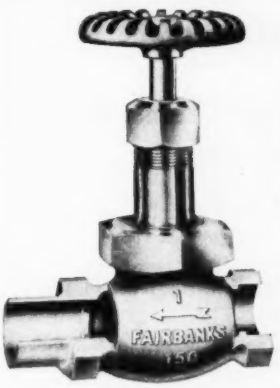
An electrode that is used with an arc welder to produce instant heat rather than for welding is available from Eutectic Welding Alloys Corp., 40-40 172 St., Flushing, New York. The steel core of the electrode is oxidized into a powder that can easily be brushed off. (U-29)

Pocket-Clip Magnet Picks Up Metallic Particles

A small magnet for removing metallic particles from hard-to-reach places such as drill holes is available from General Scientific Equipment Co., 2700 W. Huntington St., Philadelphia 32, Pa. The magnet

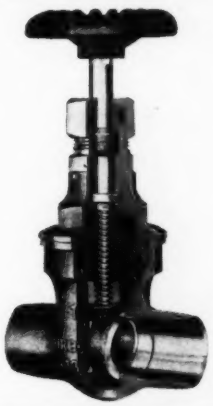
insure permanent leakproof joints in copper or brass piping

Fairbanks THREADLESS Valves



"Fairco-Braze" Threadless Valves for silver brazed joints. Cut costs, speed installation of piping systems handling steam, hot or cold water, oil, compressed air, carbon dioxide, Freon and many other liquids and gases with Fairbanks "Fairco-Braze" Threadless Bronze Valves. Silver brazed joints permit the widest selection of materials as "Fairco-Braze" Valves in any type, through pressure ratings of 300 pounds steam working pressure, give permanent leakproof joints with copper, yellow brass, red brass, copper nickel, monel or steel pipe and type "B" copper tubing.

The silver brazed connection withstands tension, compression, torsion and vibration to a far greater degree than any other type joint and at the same time provides greater corrosion resistance.



Solder End Threadless Valves for soldered joints. Get perfect seal of valves for type "K", "L" and "M" copper tubing with Fairbanks Solder End Threadless Valves. Close fit of tubing and valve socket produces a capillary action that draws the molten solder in for the entire length and completely around the circumference of the connection. Simple, quick installation provides a smooth, compact, full flow assembly that has high resistance to corrosion.

Full line of Fairbanks Solder End Threadless Valves — Globes, Gates and Checks — have an unusually wide application range: ideal for hot and cold water lines, for low pressure steam lines, and underground water lines; in plumbing, heating, and air conditioning systems. Industrial uses include water, oil, air and vacuum lines, low pressure steam lines, pressure lubrication systems, dye lines in textile mills, liquor lines in breweries and distilleries.

YOURS ON REQUEST:

Fairbanks Valves Catalog, complete with cutaways, details, and specifications describing these Fairbanks Threadless Valves.

THE Fairbanks COMPANY
393 LAFAYETTE STREET
NEW YORK 3, N. Y.

BRANCHES:
NEW YORK 3 • BOSTON 10
PITTSBURGH 22 • ROME, GA.

VALVES
TRUCKS
CASTERS
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CLINTON

STANDARDIZED STARCHES

FOR THE SIZING AND FINISHING OF

TEXTILES

C HAMBRAY
L AWN
I NTERLINING
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O XFORD
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S HEETING

I MPERIAL
N ANKING
C HINTZ

CLINTON FOODS INC

CORN PROCESSING DIVISION

CLINTON, IOWA

is enclosed in a small nonconducting case the size of a fountain pen, and the case has a pocket clip attached. (U-30)

Small Shut-Off Couplings

Two-way shut-off couplings from ⅛ to ⅜ in. have been added to its line of ¼- to 1-in. couplings by The Hansen Mfg. Co., Cleveland, Ohio. The couplings are used on pneumatic and hydraulic lines and are available in brass or steel. (U-31)

Recorders for Process Control

Two new recorders were recently introduced by Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 N. 4th St., Philadelphia 22, Pa. These instruments are 6- and 24-point circular chart recorders and are available as A.C. Self Balancers or Tektologs. (U-32)

Molded Glass-Fiber Insulation

One-piece molded glass-fiber insulation has been developed by Guston-Bacon Mfg. Co., Kansas City, Mo. It is available in 3- and 6-ft. sections with ½-, ¾-, and 1-in. wall thickness, and it is flexible, lightweight, and pleasant to handle. (U-33)

Machines Enameled Overnight

Quick-drying enamels that permit overnight machine refinishing have been developed by Tropical Paint & Oil Co., Cleveland 2, Ohio. The enamels dry in 4 hrs. and can be used on related wooden surfaces as well. Colors available include blue, yellow, green, gray, orange, and red. (U-34)

Corrosion-Resistant Fittings

Corrosion-resistant reducing bushings, plugs, unions, and caps have been added to the line of Boltatron 6200 unplasticized-polyvinyl-chloride fittings. The fittings are distributed by H. N. Hartwell & Son, Inc., Boston, Mass., and they are available in standard IPS sizes. (U-35)

Better Glass-Fiber Insulation

The thermal efficiency of the preformed glass-fiber pipe insulation made by Owens-Corning Fiberglas Corp., Toledo 1, Ohio, has been improved 5% by the use of a finer glass fiber. The insulation is used for temperatures from subzero to 450° F. (U-36)

English Motors Available

British-built Newman motors up to 230 hp. are now available in the U. S. from Newman Industries (America) Inc., 43 Broad St., New York 4, N. Y. Both squirrel-cage and wound-rotor motors, built to NEMA recommendations, are available. (U-37)

Power-Driven Conveyor Curve

A power-driven roller curve for gravity-roller conveyor systems has been developed by Harry J. Ferguson Co., W. Ave., Jenkintown, Pa. The rollers are driven by a ⅓-hp. motor, and the curve is available in 90 and 180° turns. (U-38)

Improved Acid Hose

An improved hose that is said to resist a wider range of acids, salts, and alkalis has been announced by Raybestos-Man-

For more information, write direct or use Reader Service post card.

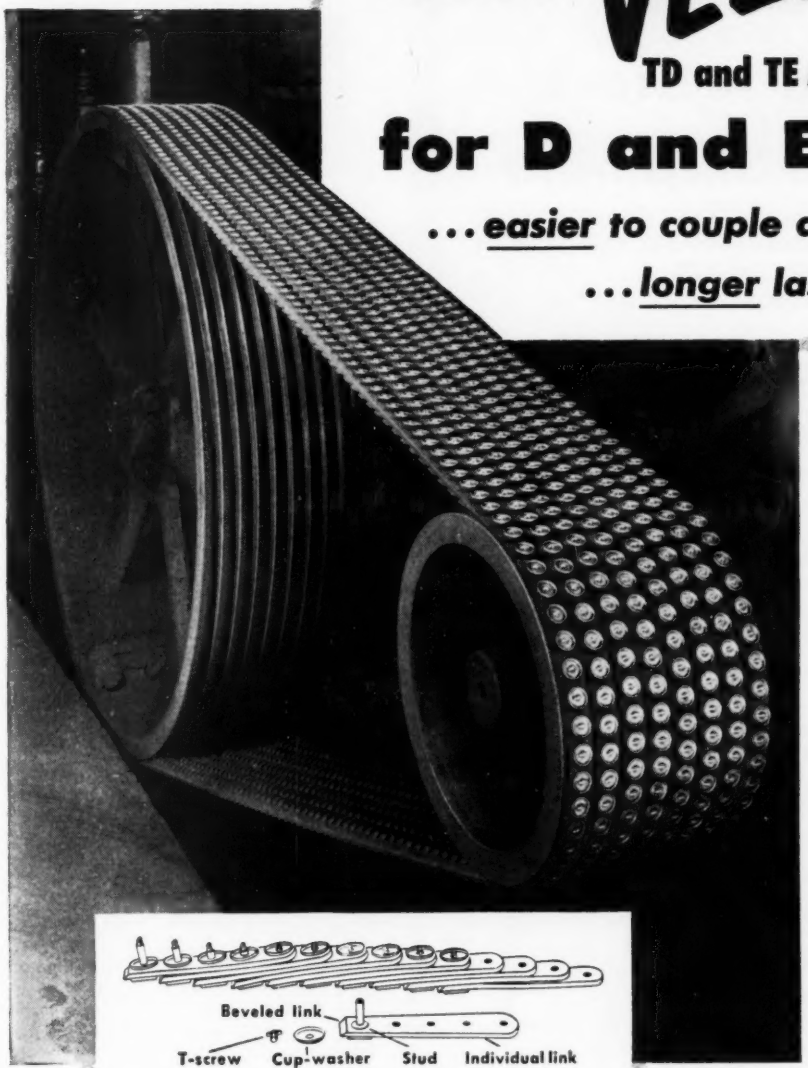
NEW VEELOS

TD and TE Adjustable V-belts

for D and E Drives

...easier to couple and uncouple

...longer lasting



This detailed line drawing of the new Veelos TD and TE v-belt makes it easy to see how this new v-belt is designed to do a better job... easier!

Now get the v-belt that's been especially developed for D and E drives—the new, patented Veelos TD and TE adjustable v-belt!

This new Veelos has advantages unmatched by any other v-belt. It is *installed quickly* without removing the outboard bearings found on most D and E drives. It is the easiest v-belt to couple and uncouple ever developed. Cup-washers and T-screws join links together to form individual belts of any length. Veelos TD and TE *lasts longer* because new high-tensile strength links plus the new stud, cup-washer and T-screw design give *added strength* —combines this added strength with *maximum flexibility* for cooler, smoother running.

Install this new Veelos TD and TE v-belt on your D and E drives. Prove to yourself why there's no v-belt that can match the performance, the efficiency and the economy of Veelos TD and TE.

Get the complete story of this great new v-belt for D and E drives. Send the coupon now for new 8-page illustrated catalog.

VEELOS
THE LINK
V-BELT

Veelos is known as Veelink outside the United States.

T1

MANHEIM MANUFACTURING & BELTING CO.
611 Manbel St., Manheim, Pa.

Please send copy of your new Veelos TD and TE v-belt catalog.

Name.....

Company.....

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ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

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Every kind in stock

Immediate shipment

Principal Products: Bars, Structurals, Plates, Sheets, Tubing . . . Carbon, Alloy and Stainless Steels, Machinery and Tools, etc.

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MICROMETRIC ***products***

For Quality and Uniformity

Comb and Gill Box Aprons
French Rub Aprons
Condenser Aprons and Tapes
Converter Aprons

Exclusive Manufacturers of Leather Textile Specialties
"For Those Who Want the Best"

Finest selection of hides available . . . choice of tannages . . . Thickness gauged to meet the most exacting requirements . . . excessive stretch removed . . . flexible waterproof splices . . .

As specialists in Drafting Aprons for the Worsted System, our workmen are experienced in selection and matching of hide areas to give "balance" and long life.

A trial order will please you with our service.

The HAY Line TEXTILE LEATHERS

JAMES E. HAY LEATHER CO., INC.

244 SMITH STREET • LOWELL, MASS.

hattan, Inc., Manhattan Rubber Div., Passaic, N. J. A new synthetic material has been added to the compound used in the tube and cover. **(U-39).**

Steam Generator Uses Natural Gas or Fuel Oil

A steam generator that can be changed from fuel oil to natural gas by flipping a switch is available from Vapor Heating Corp., 4501 W. 61st St., Chicago 23, Ill. The generator is especially useful in areas where natural gas is available only part of the time. Working pressure of 300 lbs. is developed in 3 mins. from cold water; output is 1,500 to 5,000 lbs. of steam per hour. **(U-40)**

Books of Interest

First Volume in Series On Cotton Spinning

MANUAL OF COTTON SPINNING, Raw Cotton Production and Marketing; The Textile Institute, Manchester, England, cloth, 215 pages, $1.75.

This first volume of the cotton-spinning manual covers raw cotton production and marketing. Later volumes will appear at intervals, and it is intended that the series will become a standard work on cotton spinning for the student.

Volume one consists of three sections. The first, by the Statistical Department of The Cotton Board, covers "The History and Structure of the Cotton Industry." Economic background and geographical distribution are covered in detail.

The second section, by E. Lord of the British Cotton Industry Research Association, deals with "The Cotton Crop." It gives information on agricultural, biological, and economic problems that will determine what quantity and quality of cotton is ultimately made available to mills.

The third section, by C. R. Barber of the Raw Cotton Commission, describes "Marketing Processes," the organization and operation of the world's cotton markets.

Reference Work on Effects Of Organic Solvents

TOXICITY OF INDUSTRIAL ORGANIC SOLVENTS, by E. Browning; Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y.; cloth, 411 pages. $8.

The subtitle of this book is "Preventive Measures for and the Treatment of Industrial Poisoning." This edition is a revision in consultation with the Toxicology

Committee of the Medical Research Council of England. It is limited to substances that are used primarily as solvents; and it reports the effects on animals and man of a large variety of solvents used in industry.

The place for this book is in the medical department, but the chapters do contain practical suggestions for the handling and storage of toxic solvents. An excellent index and the organization of chapters makes the book a good reference work to be used mostly by medical departments.

General Characteristics Of Man-Made Fibers

ARTIFICIAL FIBRES, 2nd Edition, by R. W. Moncrieff; John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.; cloth, 455 pages, $6.

The synthetic fibers are discussed from the viewpoints of chemical nature, manufacture, properties, dyeing, and uses. The discussion of properties is directed more to the performance of fibers in fabrics than to mill performance. So for a mill man, the general discussions of dyeing characteristics are the most valuable.

The book does provide an excellent guide to what the fibers are, how they are made, their general characteristics, and the differences between similar fibers. It is recommended as a source of this informations.

General Information On Textiles for the Student

TEXTILE FIBERS AND THEIR USE, 5th Edition, Katharine Paddock Hess; J. B. Lippincott Co., New York, N. Y.; cloth, 547 pages, $5.50.

Written for college students interested in studying textile fibers and fabrics in relation to consumption, this book covers just about every field of textiles with basic information on what the different fibers, fabrics, and processes are and what contribution each makes in relation to the end product.

The mill man would have little use for it, unless he wants to know basic facts about other branches of the industry. The book is a candidate for the library shelf rather than the mill office.

What the Scientist Can Contribute to Textiles

FIBRE SCIENCE, Edited by J. M. Preston; The Textile Institute, Manchester, England; cloth, 421 pages, $6.

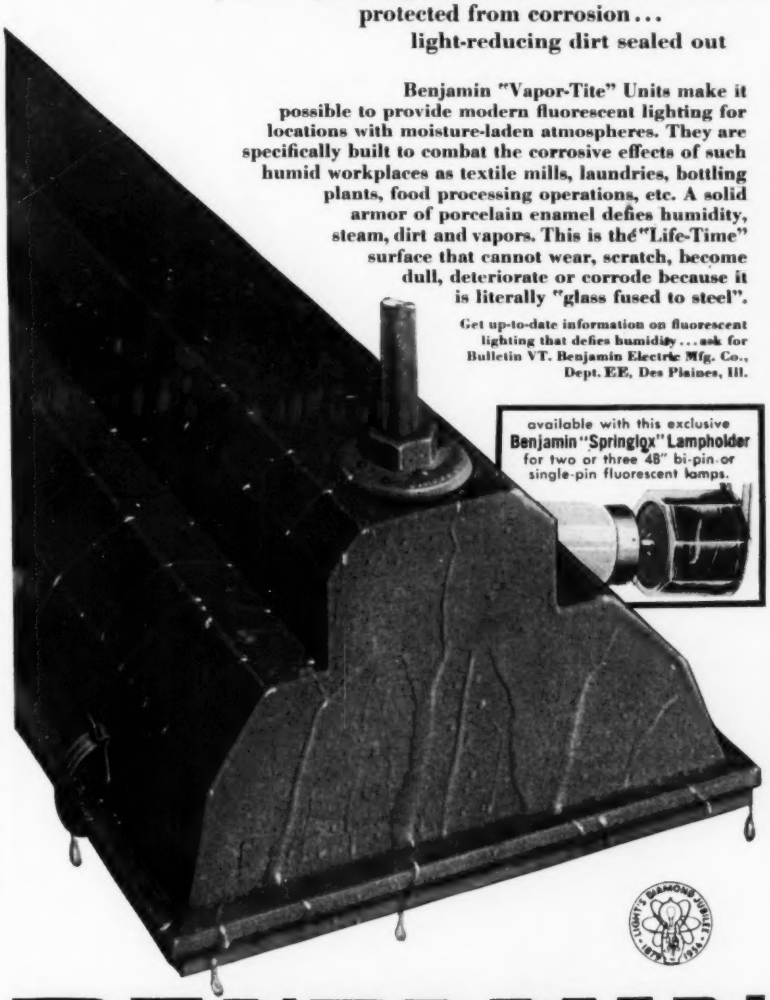
This book is a revised and enlarged edition of the 1949 *Fibre Science*. It is directed to the scientist who is interested in textile research and the textile technologist who is interested in knowing what the scientist can contribute to textile-fiber knowledge. With the exception of one chapter on "The Fine Structure of Fibres In Relation to Dyeing and Finishing," the chapters are concerned with such things as chemical properties, optical properties, molecular structure, and various methods of investigating the nature of fibers.

Can't rust out!

no cracks or crevices... no place for rust to get a foothold... seamless, one-piece housing with unbroken surface of "Life-Time" Porcelain Enamel!

No service breaks due to humidity!

poor lamp-starting eliminated... electric contacts protected from corrosion... light-reducing dirt sealed out


available with this exclusive
Benjamin "Springlox" Lampholder
for two or three 48" bi-pin or
single-pin fluorescent lamps.

Benjamin "Vapor-Tite" Units make it possible to provide modern fluorescent lighting for locations with moisture-laden atmospheres. They are specifically built to combat the corrosive effects of such humid workplaces as textile mills, laundries, bottling plants, food processing operations, etc. A solid armor of porcelain enamel defies humidity, steam, dirt and vapors. This is the "Life-Time" surface that cannot wear, scratch, become dull, deteriorate or corrode because it is literally "glass fused to steel".

Get up-to-date information on fluorescent lighting that defies humidity... ask for Bulletin VT. Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.

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"VAPOR-TITE"

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A Product of Benjamin Electric Mfg. Co.
makers of famous Benjamin and Leader Line lighting equipment and Sound Signals for Industry, Institutions and Commerce.

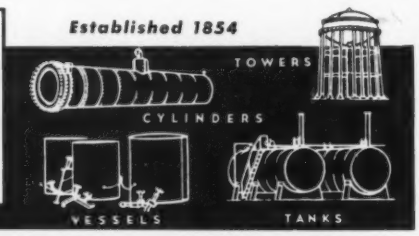
For more information, write direct or use Reader Service post card.

THE FIRST HUNDRED YEARS

FROM a small iron-works in 1854, we have been fortunate in growing to be one of America's largest metal fabricating industries . . . For the privilege of celebrating our Centennial, we express our appreciation for the friendship of four generations of customers, and the loyalty of four generations of workers.

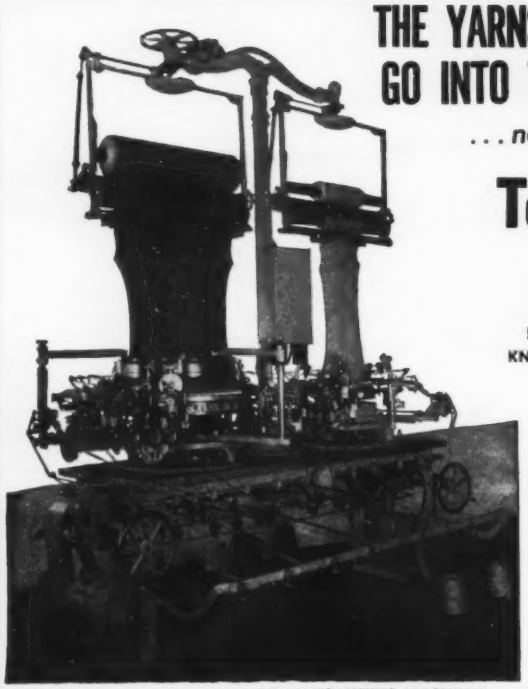
R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



THE YARNS YOU BUY GO INTO THE CLOTH

. . . not into waste!



TOMPKINS D-2

DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE

SEE FOR YOURSELF . . . let us show you the Tompkins D-2 in production on whatever yarn or fabric you wish. Want to see samples of finished material? We'll knit up any material you specify — just send us the yarn!

OTHER TOMPKINS MACHINES

BEEF BAG KNITTER | HOCKEY CAP KNITTER | MULTIPLE FEED KNITTER

TOMPKINS BROS. CO. • Syracuse 4, N. Y.

Textile Equipment News

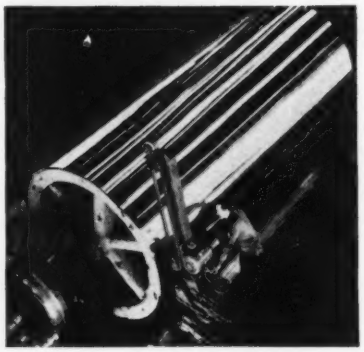
CONTINUED FROM PAGE 142

Depending on the voltage fed to the magnet, this oil shear maintains light or heavy tensions.

With a continuous web, no adjustments are necessary unless the tension requires a change. Adjustments can be made before or after starting the machine. Applications without dancer rolls, for tacky materials, are possible.

Circle T-24 on Reader-Service Card

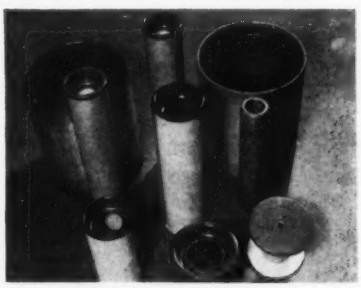
28-Ton Dryer Roll For Carpet Presser



CARPET-DRYER ROLL, being finished at Lukens Steel Co., Coatesville, Pa., will be used on giant ironing machine for pressing and drying broadloom carpets at C. H. Masland Co., Carlisle, Pa. The dryer roll has an 8-ft. dia., is 19 ft. long, and weighs 28 tons. Jacketed steel is used in the roll, which was specially designed for the job.

Circle T-25 on Reader Service Card

Nonshatter Rewind Caps



ONE-PIECE REDRAW CAPS are molded to withstand breaking in normal usage. Made by Artmor Plastics Corp., Cumberland 12, Md., the new design of the caps is said to compensate for the usual variations in the inside diameter of the tube. Standard tubes for which caps are now available include 2⅞-in. acetate package and 4-in. Dacron package. Other sizes are being tooled for. Artmor does not make the tubes.

Circle T-26 on Reader Service Card

FAMOUS FOR FASTNESS

The name Ciba is associated indelibly with progress in the production of faster dyes.

These famous trade names—associated with products that are the best of their class—represent landmarks on the path of achievement whereby Ciba continues to discover and to produce new dyes that truly are "Famous for Fastness".

CIBANONE® *Dyes*

Anthraquinone Vat dyestuffs of the highest quality which are standardized for all methods of application.

NEOLAN® *Dyes*

Acid dyeing pre-metallized dyestuffs with very good fastness to light and good fastness to washing and perspiration.

CHLORANTINE® *Dyes*

Substantive dyestuffs which produce shades with outstanding fastness to light. Selected colors from this group are suitable for aftertreatment with urea formaldehyde resin and copper salts to produce shades which have excellent light- and wet-fastness.

COPRANTINE® *Dyes*

Substantive dyestuffs which, when aftertreated with copper salts, produce dyeings with remarkably good fastness to light and washing. Coprantex B is especially recommended for aftertreating these colors.

CIBALAN® *Dyes*

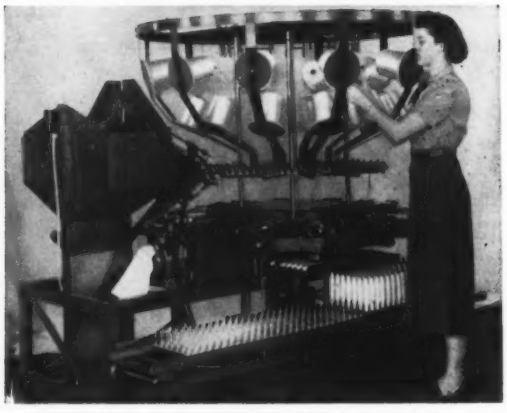
The original neutral dyeing pre-metallized dyestuffs with uniform dyeing rates and remarkable light- and wet-fastness properties.

CIBA

pioneers in the production of faster dyes.

Automatic Winders for Rewound Filling

to take advantage of large package spinning, more yarn on filling bobbins, more uniform bunches, better weaving bobbins, and inspected yarn, all of which go to make a better fabric.



Abbott Traveling Spindle Package Winders

Automatic Cone or Tube Winders for warping, dyeing, twisting, quilling, sales.

Can be equipped with any one of a variety of slub catches and inspection devices.

Production up to 1000 bobbins per hour per operator.

Abbott Traveling Spindle Automatic Quillers

For winding cotton, spun rayon, worsted, etc., equipped to doff automatically into baskets, or stack automatically into boxes.

For rewinding woolen yarn from mule and ring frames. For winding filament rayon and nylon, etc., with automatic pinboard attachment or wide belt inspection conveyor.

Production up to 2000 bobbins per hour per operator.

Abbott Fully Automatic Radial Quiller

For smaller lots and widely diversified mills.
For winding cotton, spun rayon, filament rayon, worsted, wool, etc.

Can be arranged to deliver bobbins to Pinboard Attachment, or into baskets, or onto wide belt conveyor.

One operator can run several machines producing up to 2000 bobbins per hour per operator.

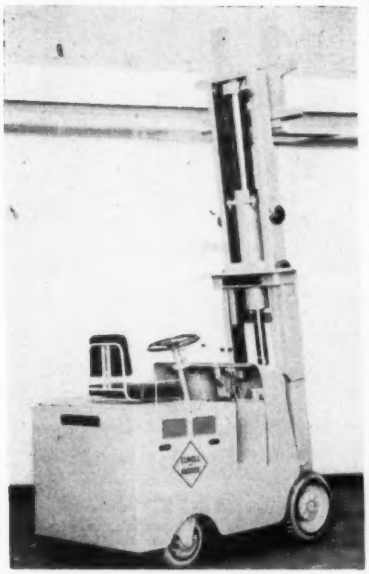
Can be equipped with measured yardage device for two-shuttle looms.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.

5,000-Lb. Capacity Electric Fork Truck



A 5,000-LB. ELECTRIC TRUCK has been introduced by the Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio. Called Model F-30T5, the truck features: contractor controls, worm drive, caster trail axle, packaged unit assemblies, and a rocker-arm tilt. Speed with load: 5½ mph.; lifting speed with load: 25 ft. per min.

Circle T-27 on Reader-Service Card

On-Off Recorder

TIME RECORDER-TOTALIZER has a visual and permanent record that shows chronologically when a process or piece of equipment is on or off. One roll of recording tape will last almost a year. Made by Heat Timer Corp., 657 Broadway, New York 12, N. Y., the instrument also automatically totalizes the operating time.

Circle T-28 on Reader-Service Card

No line of drinking-water equipment offers more than Halsey Taylor . . . in wide range of selection, in smart styling, in health-safety!

THE HALSEY W. TAYLOR CO.,
WARREN, OHIO

See our catalog in Sweet's or write!

F-32

Halsey Taylor
COOLERS & FOUNTAINS

NON-FLUID OIL
TRADE MARK REGISTERED

UPS *LOOM* PRODUCTION

Drip-proof, waste-proof NON-FLUID OIL, the leading lubricant in the textile field, *ups* loom production and outlasts ordinary oils 3 to 5 times. It remains *in* the bearings where it belongs—and *off* the goods and floor—providing *constant* lubrication, keeping machines in *steady* service, and holding *down* oil bills.

Dripping, leaking ordinary oil lowers loom production because it won't stay in bearings, but creeps and spatters on warps, floor, and goods causing oil spot "seconds."

A-No. 00000 grade NON-FLUID OIL is recommended for general oiling of looms. Write for Bulletin TM-20 together with a free testing sample and prove for yourself that NON-FLUID OIL provides cleaner and better lubrication at less cost than ordinary oils.

NEW YORK & NEW JERSEY LUBRICANT COMPANY

292 Madison Avenue, New York 17, N. Y. Works: Newark, N. J.

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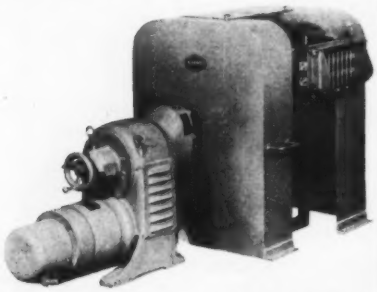
WAREHOUSES: Birmingham, Ala.—Atlanta, Ga.—Columbus, Ga.—Charlotte, N. C.—Greensboro, N. C.—Greenville, S. C.—Chicago, Ill.—Springfield, Mass.—Detroit, Mich.—St. Louis, Mo.—Providence, R. I.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

It Cuts Flock

TO 1/64" or 1/2 MM



TAYLOR STILES CUTTER

This machine is being used to cut precision flock into lengths of ½ MM and longer.

The manufacture of flock is dependent on the preparation of the filaments, the method of feeding, speed of head and feed, and guiding to the filaments. These factors are closely guarded secrets.

We know flock manufacturers all use Taylor-Stiles cutters. We are prepared to supply machines that will cut accurately to the desired length—provided the user develops the proper methods. If the user will specify whatever modification of the standard cutter he wants, we will make them.

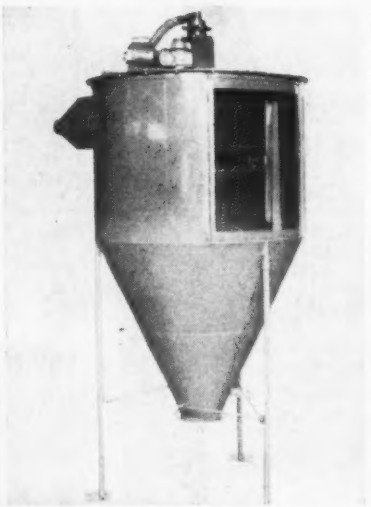
We also manufacture thread waste, staple, fibre, glass, rag and combination cutters.

Write for descriptive illustrated literature.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge Street, Riegelsville, New Jersey

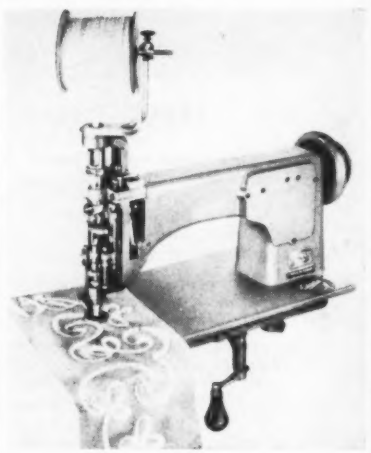
Dust Collector Designed For Heavy Dust Loads



AEROTURN DUST COLLECTOR, Model R, has been introduced by Turner & Haws Engineering Co., Inc., 87 Gardner St., Boston, Mass. The collector has a cylindrical housing and a rotary-arm continuous cleaning action for handling heavy dust loads in pneumatic conveyor systems operating under a high-pressure vacuum. Dust and dirt are filtered out as the air passes from the outside to the inside; normal capacities are 300 to 10,000 cpm.

Circle T-29 on Reader-Service Card

New Embroidery Machine Is Twice As Fast



CORNELY EMBROIDERY MACHINE, available from Columbia Sewing Machine Corp., 129 W. 22nd St., New York 11, N. Y., makes a chain stitch and is used for embroidering names, ornamental designs, and chenille emblems and lettering. It can be used with any kind of braid, ribbon, or cord. This Model B-5 is said to be twice as fast as Model B because of ball bearings and ball joints.

Circle T-30 on Reader-Service Card

Why the Textile Industry looks to DARNELL for CASTERS & WHEELS

Darnell Engineers have given special study to Caster and Wheel usage in Textile Mills - have developed many models of casters and wheels to meet the demands of efficient, economical intra-plant movement of materials. It will pay you to consult a Darnell distributor when considering casters and wheels, either for new equipment or replacement.

• • • •

DARNELL CASTERS & WHEELS
Always
SWIVEL and ROLL

GET THE FACTS
Free Manual

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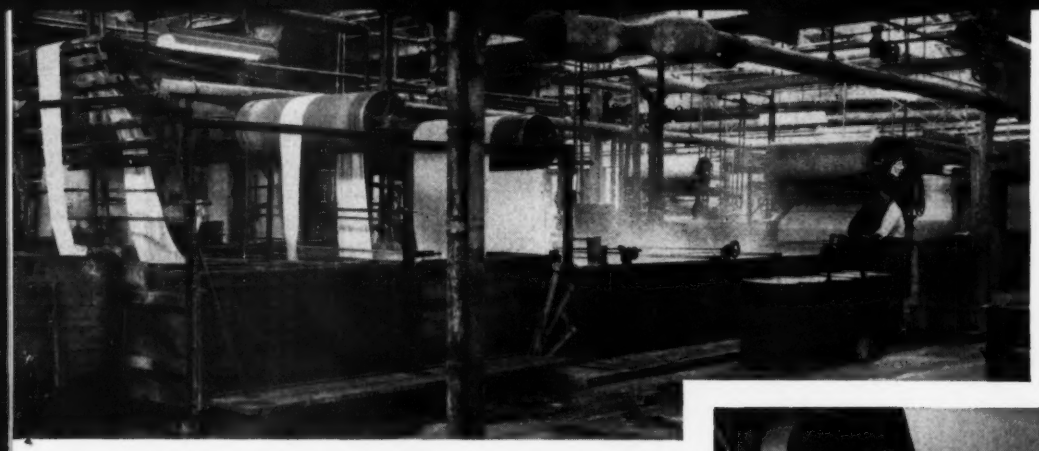
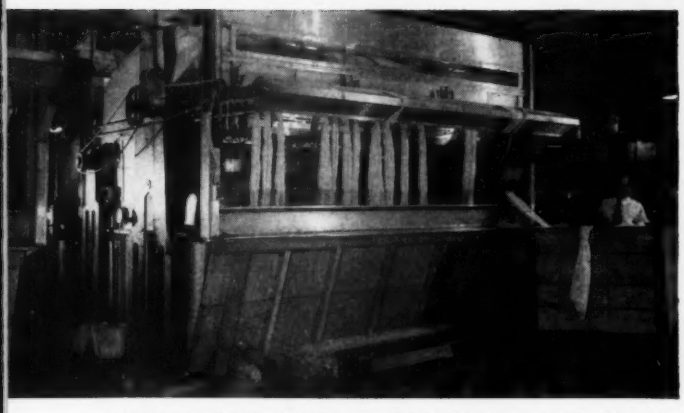
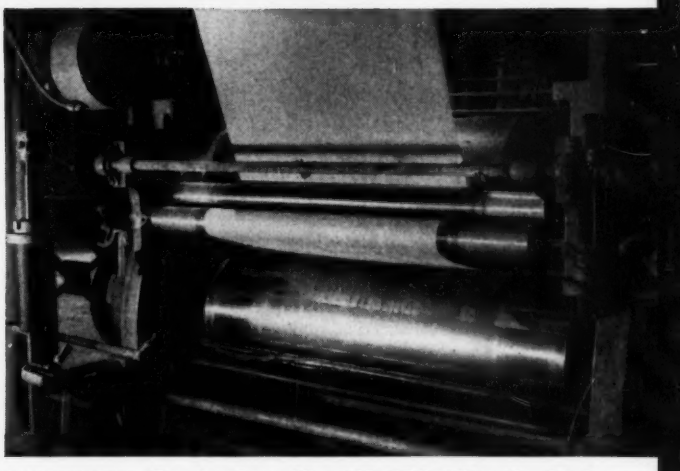
DOWNEY, (Los Angeles County) CALIF.
60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois



GREIGE-GOODS leaving the boil-off unit where impurities are removed. The unit utilizes much Stainless Steel.



FABRIC TO BE DYED is being roped into the channels of a Stainless Steel enclosed dye-beck.



STAINLESS STEEL rollers in a dye padder at The United Piece Dye Works.

In dyeing operations at The United Piece Dye Works ...the only metal to touch the fabric is Stainless Steel

• Transforming greige-goods into beautiful fabrics in an infinite range of colors, patterns and textures, The United Piece Dye Works, Lodi, N.J., has constantly sought the finest processing methods. One of the results is their use of Stainless Steel wherever metal touches the fabric in dyeing operations.

Boil-off units, where continuous lengths of raw goods are drawn through hot soapy water, employ approximately 400 Stainless Steel rods, as well as Stainless Steel drums.

Dyeing is done on four types of Stainless Steel units at The United Piece Dye Works: duplex dyer, enclosed dye-becks, dye jigs and dye padder. On each type, Stainless Steel has proved it can protect the product best through delicate dyeing operations.

The dye-becks, for example, had previously been made of wood and of a metal other than Stainless Steel. Wood leaked, became dye saturated, and was hard to clean. The other metal was subject to corrosion and had to be cleaned with a severe acid solution. But Stainless has demonstrated its superior corrosion resistance, and a rinsing with water cleans the dye-becks satisfactorily between dye changes.

The freedom from contamination that Stainless Steel makes possible helps The United Piece Dye Works achieve clear, unvarying colors, evenness of shade and thorough dye penetration.

Stainless Steel can give you the same results. Not only in dyeing, but in all phases of mill operation. And, for the best performance, insist that your equipment fabricator uses perfected, service-tested USS Stainless Steel.

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Full-Fashioned Machines

CONTINUED FROM PAGE 111

Faulty Machine Parts Cause Damaged Knock-Over Bits

Knock-over bits do not cause much trouble, but other machine faults damage them and put them out of alignment. Damage to knock-over bits can be caused if a needle fails to press. The gathered-up stitches are pulled down between the knock-over bits to spread them apart. A broken needle beard with the top bent sideways permits the needle to come up between the next sinker and divider to force them both out of alignment and often nick the knock-over bit.

The narrowing points sometimes damage the upper edge of the knock-over bits and cause cuts in the fabric. A broken-off needle beard lodging between the needle, clamp, and the slotted part of the needle bar will sometimes force the knock-over bit to one side when the needles rise.

A white card under the knock-over bits aids correct spacing. It is difficult, however, to straighten a knock-over bit to perfection; usually it is better to replace the bent bits than to try to straighten them.

The knock-over bar gathers dirt and size that is difficult to remove. If the bars are neglected, needles cease to press off. Compressed air is usually sufficient to blow out all dirt between the bits. A thorough job can be done on some machines only if the bar is removed. A piece of discarded welt bar 3 ins. long does a good job of removing some of the dirt between the bits.

Spooler Efficiency

CONTINUED FROM PAGE 103

ages should be borne in mind by the spinning-room overseer. If different yarn numbers are run at the same time, the coarser numbers should be kept on larger packages if possible.

Fig. 3 shows what happens when 30s and 20s yarns of the same net weight are spooled at the same time. Lost production is represented by the shaded area.

Many mills that are now spooling different yarn numbers at the same time would find it economical to run them separately. The time it takes for the knotter to complete a round can be adjusted to each yarn number. It is necessary to have a larger number of cheese cores, tridents, and storage places. The final choice of whether to run yarn numbers together or sepa-

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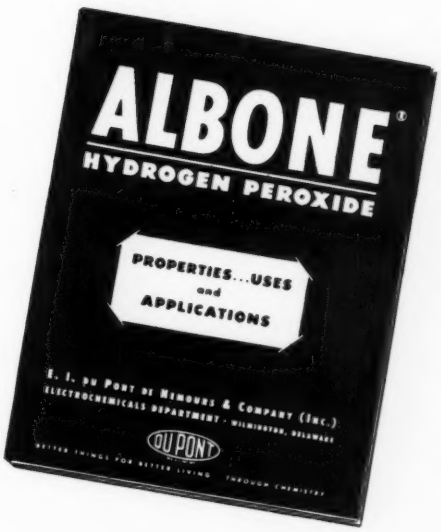

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rately depends on the size of the spooler and bobbins.

Mechanical Adjustment Is Important

The automatic spooler is a machine that requires careful adjustment and maintenance. Otherwise, knotter failures, drag-alongs, cut cheeses, and numerous other faults will cause trouble at the warper, slasher, and loom. Adjustment, oiling, cleaning, and general maintenance are covered by the machine maker's manual. Still, with a mechanism in which the movement of one part must be related to the movement of other parts almost exactly, no two machines are exactly alike.

When a machine has been operating for some time with adjustments made to compensate for legitimate wear of cams, bowls, and shafts, final adjustments are usually made over a period of time on a trial-and-error basis. When the machine is in "concert pitch," it is a good idea for each section hand to take timings for himself and relate them to the knotter index numbers.

Fig. 4 illustrates such a timing chart for a particular machine. Space can be left after each action for comments and pertinent information. In the case of a breakdown or accidental displacement of a setting, such a chart can save a lot of time and production.

Starters, Snick Plates, Detector Springs

If yarn remains on starters too long, the yarn on the cheese core gets distorted and gives the appearance of having been slackly wound; it spreads along the core and forms a poor foundation on which to build another cheese. Such starters cause bad running at the warper toward the end of the second beam.

It is good practice, therefore, for the person in charge to examine a proportion of the starters each shift and take the bad ones to the tailing machine to be unwound.

Snick plates need attention if they are to perform at maximum efficiency. Supervisors would do well to check the adjusting wrench occasionally to insure a correct setting. It is advisable also to check daily a number of snick plates to make sure cam slides aren't stuck in the low position with the blades wide open. Damaged blade teeth can also make cleaning ineffective. A dozen or so spare snick plates and a regular replacement schedule will prevent most of the snick-plate troubles.

Using detector springs as tension devices to try to get extra yarn on the cheeses is a common mistake. The sole

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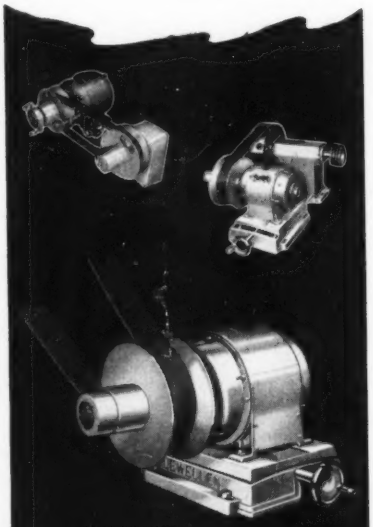

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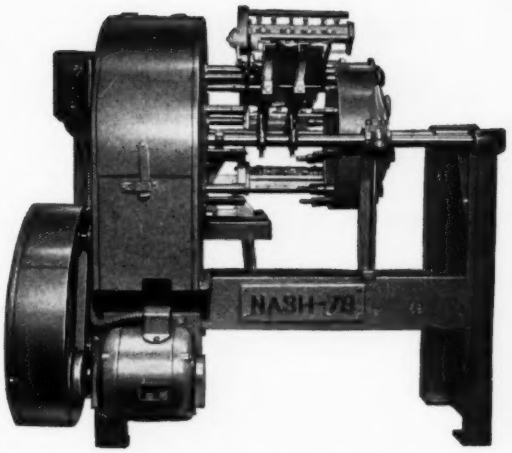

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UNRETOUCHED PHOTO

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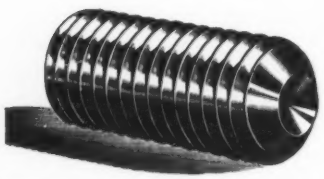

ALLEN HEAD

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object of these springs is to insure the removal of the cheese from the drum when an end breaks or the cheese is full.

A record of stock and production will assist in balancing production between the spooler and the warper. This record is also useful in comparing one shift with another and to keep a check on wage payments, and it is important enough to be kept by the overseer himself.

Fig. 5 illustrates a simple way to keep this record. The stock is totaled for every shift, and warper production is recorded every 24 hrs.

Attention to details by the spooler tenders has a great influence on the running of the warper. It is helpful to put in a system to identify each operator's work. If each operator marks his own cheeses with a piece of colored chalk, bad cheeses taken out of the warper creel can be shown to the operator at fault. Thus, the particular weakness of each operator can be pointed out to him. This action alone should improve quality.

New Slashing Equipment

CONTINUED FROM PAGE 99

cooking kettles are 8 ins. off the floor; the storage kettle is elevated 6 ft. The pump lifts the cooked size to the storage kettle, where it is fed by gravity to the slasher size box.

To fill a cooking kettle with starch, a slasher man presses a switch at the conveyor to fill the hopper, moves the hopper down the track over either of the cooking kettles, and shifts a lever on the hopper. The scale stops the flow of starch when the selected weight is measured.

Since Gold-Tex's present sizing mixture calls for 140 lbs. of starch per batch, the hopper will service the cooking kettles three times before being refilled.

After the 140 lbs. of starch is placed in a storage kettle, 19 lbs. of softener is added by hand.

Slashers Are Equipped With Automatic Controls

An automatically controlled water system adds 152 gals. of water to the starch and softener. The water control can be set to any desired quantity of water, and the slasher man simply presses a push button to add the water.

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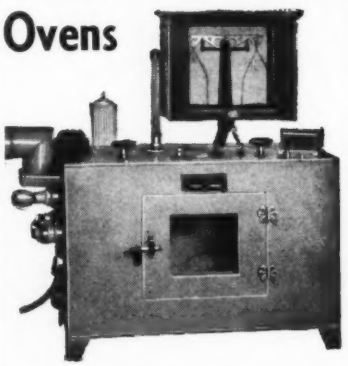

For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

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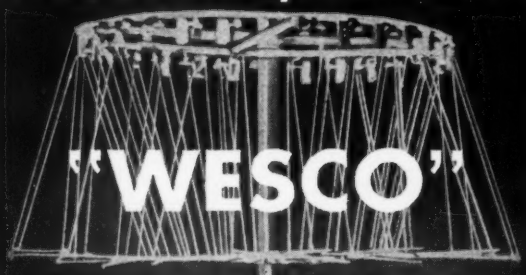

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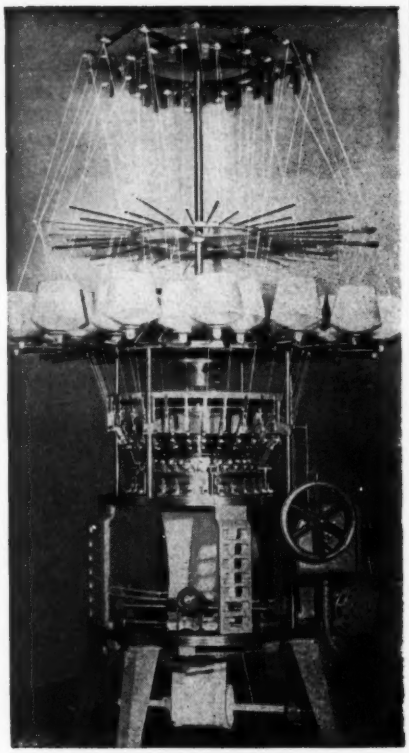

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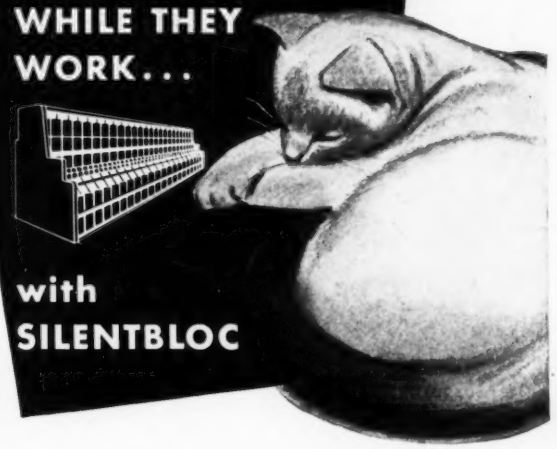

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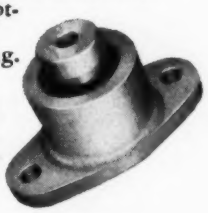

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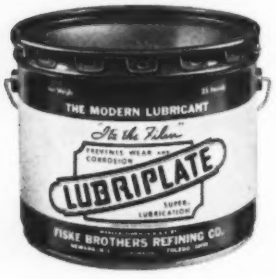

60 ins. in diameter, and the other eight are 30-in. cylinders. Steam pressure is 22 psi. on the large cylinder and 32 psi. on the others.

The temperature of the large cylinder is 280° F.; the small ones, 273° F.

Taylor instruments control the temperature of the cooked size and the cooking time, the level of the size in the box, and the temperature of the cylinders.

The cylinders are all geared for warp-stretch control, and the slasher is driven with a Reliance drive.

A stainless-steel hood equipped with an exhaust fan connected to a duct leading outside the building is mounted over the slasher. The fan reduces the temperature over the slasher and prevents air fogging.

Warps are slashed on loom beams with 22-in. heads for three widths of looms—30, 36, and 40 ins.

Georgia Carders

CONTINUED FROM PAGE 101

Universal Grid Bars on Pickers

One mill found that Universal grid bars take out more waste and require less maintenance. The finisher section of the No. 1 picker is equipped with the grid bars, and the breaker section has conventional-type grid bars. The No. 2 picker has conventional grid bars on both sections.

A 15-oz. lap weighing 50 lbs. is made every 7½ mins. At 100% production, 400 lbs. of cotton per hour is processed.

The pickers are equipped with hydraulic rack releases, and the lap weights have been increased from 46 to 50 lbs.; but no difference in evenness has been noted.

The hydraulic rack release in other mills has resulted in smaller-diameter laps, more-uniform laps, smoother laps at the start, a more-uniform selvage, more-consistent total yardages, and easier doffing.

One mill uses Universal grid bars in the intermediate section of its pickers. The production is 330 lbs. per hr. with a beater speed of 1,035 rpm. and a fan speed of 1,523 rpm. Without losing good staple, 25% more waste is taken out. The settings from the top bar down are: $\frac{7}{16}$ in., $\frac{3}{8}$ in., $\frac{7}{16}$ in., and $\frac{1}{4}$ in. The air currents seem to distribute the cotton more smoothly on the screens, the mill reported.

Universal grid bars are used in a two-beater picker in another mill. The production on 1$\frac{1}{16}$-in. Middling cotton is 400 lbs. per hr. The settings to the Kirschner beater in the front

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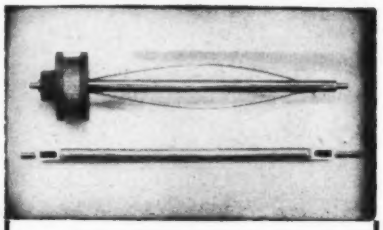

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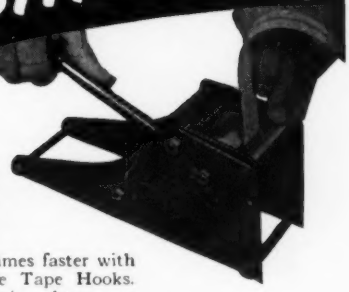
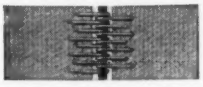


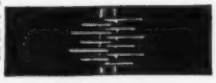
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

 For more information, write direct or use Reader Service post card.

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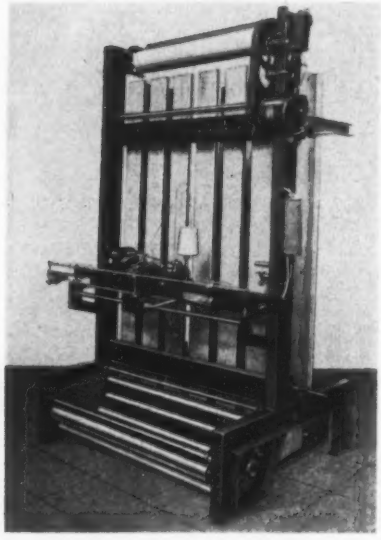
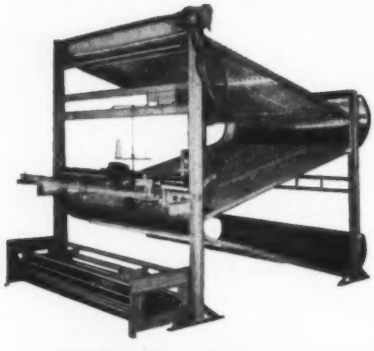
Cloth
Feeding



HERMAS JAY BOXES



HERMAS SCRAYS

Eliminate costly handling of short rolls. Sew rolls together and feed them continuously. Used in weaving plants, dye houses and print shops. Hermas Scrays and Jay Boxes hold up to 1500 yards of cloth permitting subsequent cloth processing speeds up to 150 yards per minute. Have ball bearing mounted steel nip rolls, high speed motor, Warner Electric Brake, Automatic hand control, railway, sewing machine with automatic return.

Write for folder.

HERMAS
MACHINE COMPANY
WARBURTON AVENUE
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beater section are, front to back: $\frac{1}{8}$ in., $\frac{5}{16}$ in., $\frac{1}{4}$ in., and $\frac{1}{4}$ in. The grids are set, front to back, to the blade beater as follows: $\frac{1}{4}$ in., $\frac{5}{16}$ in., $\frac{3}{8}$ in., and $\frac{7}{16}$ in.

The dropping increased 30% over regular grid bars, the waste decreased 3% on the cards, but neps increased 24%.

Picker-Lap Variation

Picker lap-weight-variation tests are made in one mill by a laboratory technician. He goes to the picker room at various times to get representative specimens of the regular production, takes a lap from each picker to the laboratory, and runs the laps on a lapmeter. The lap weight is then recorded on three copies of a standard chart.

Imperfections such as holes, thin places, bad selvages, and folds are noted on the chart. The weight of the lap in pounds and ounces per yard and the tolerance are calculated. The coefficient of variation is calculated, and the chart is sent to the overseer of carding.

If the lap has less than 80% of its length in tolerance, the picker involved is checked; and when the fault has been corrected, another lap from the offending picker is sent to the laboratory for a recheck.

A mill that runs 1$\frac{7}{16}$-in. Middling cotton at 400 lbs. per hr. makes 14-oz. laps and tests two laps from each picker monthly. Results from the Saco-Lowell lapmeter are tabulated to show the coefficient of variation and the number of yards that fall within ±3% throughout the lap. The tolerance for lap weighing is ±1.2%.

This mill uses Saco-Lowell pickers with blending reserves, a two-blade 16-in. beater at the back, and a 16-in. Kirschner at the front. The pickers run at 25.6 beats per inch with the blade and 22.2 beats per inch with the Kirschner.

A mill that uses 1-in. SLM cotton, with a picker production of 343 lbs. per hr., conducts two lap-weight tests annually over 8-hr. periods. The weight of each lap is recorded as it is doffed. The picker operator works normally to keep the lap within a ±$\frac{1}{2}$-lb. tolerance. The average lap weight and the percent variation of each picker is recorded.

Picker-lap short-term variations are checked monthly. One lap from each picker is run on a designated card. Eight 1-yd. samples of card sliver are taken from the beginning of the lap, eight from the middle, and eight from the end of the lap. The samples are taken 4 mins. apart to get a sample from a different yard of the lap. The average weight and variation are

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. . . Can be used with confidence by anyone. Kills *all* vegetation; sterilizes the soil. RESULTS APPARENT IN A FEW DAYS. Spray, sprinkle or *use as dry powder* . . . "built-in" wetting and spreading agent works *fast*. Non-inflammable, non-volatile, non-corrosive.

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. . . *Will not harm good lawn grasses*, but kills dandelions, plantain and other broad-leaved noxious plants in turf.

Write for Dolge booklet and see your DOLGE SERVICE MAN.

SOLEXTO kills grubs of turf insects—one application protects lawns for years!

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1870 CRANE 1954
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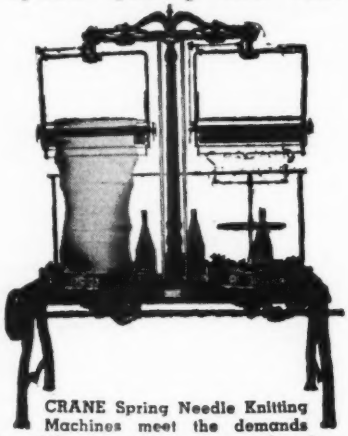
KNITTING MACHINES
Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
MANUFACTURING CO.
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CALCO dyelines

Advertisement
No. 28 of a series

C.I. 1104 . . . In The Proper Forms For Best Performance

Great tinctorial power and brilliance . . . these qualities best describe the two violets, Calcosol* Violet 4RP Extra Paste for printing, and Calcosol Violet 4RD Extra Paste for dyeing.

These brilliant blue violets of the anthraquinone class possess top fastness to all the usual color-destroying agents, are ideal for color effects on cottons and viscose rayons.

The printer will find that the improved Calcosol Violet 4RP Extra Paste produces brighter-than-ever blue violets and lavenders, acts as a shading color for royal blues, and has excellent printing properties, which recommends it for use in drapery and dress fabrics.

To the dyer, Calcosol Violet 4RD Extra Paste offers excellent tinctorial power and brilliant shading qualities.

The following table illustrates the fastness superiority of these violets in printing and dyeing.

	PRINTING	DYEING
Light Fastness	7	7
Washing	4-5	4-5
Dry Cleaning	4-5	4-5
Water Spotting	2	2
Crocking	5	5
Chlorine	4-5	4-5

A Full-Bodied Scarlet

The excellent tinctorial value of Calcomine* Scarlet 4BSY (C.I. 327) produces full-bodied scarlet shades on low-cost cottons and rayons. This dye is especially popular where excellent money value and brightness of shade are required.

Calcomine Scarlet 4BSY offers moderate lightfastness on cotton, slightly higher fastness on rayon. It is fast to wet and dry crocking, is insensitive to metals and has comparatively good fastness to a low temperature neutral wash; and dyed fabrics remain bright during storage due to the dye's excellent resistance to atmospheric gases.

A versatile dye, Calcomine Scarlet 4BSY can be used to produce scarlets, cardinals, maroons, and as a red component in browns and navies.

Dyeing Wools . . . On The Level

An extremely level dyeing color for wool is Calcocid* Fast Light Orange 2G (C.I. 27). This dye has been widely used on hand-knitting yarns and knitted goods; and carpet dyers find it useful for controlling shades in artificial light.

Calcocid Fast Light Orange 2G can be applied to wool in all stages of manufacture, including rawstock, slubbing, packages, skeins and piece goods. It can be added to a boiling dye bath without causing unevenness.

The bright orange shade and excellent lightfastness of this dye make it a popular choice for sweater yarns. It is also used to advantage as the orange or yellow component in tans, browns, navy and certain shades of acid black.

For the Textile Bookshelf

The Application of Dyes to Textile Fibers at High Temperatures (Calco Technical Bulletin No. 833). A review of basic studies of the dyeing of textile materials at elevated temperatures, begun in 1941 by Calco in cooperation with the Bachmann Uxbridge Worsted Corporation.

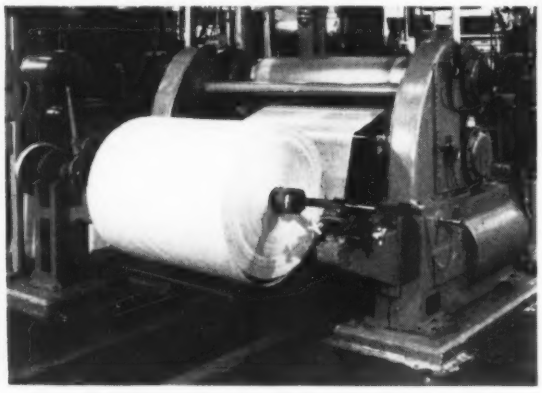
Effect of Resin Treatments on Viscose and Cotton Dyed With Selected Calcomine and Calcodur Resin Fast Dyes (Dyestuff Technical Bulletin No. 835). This bulletin describes the working properties and gives the detailed fastness properties of selected Calco* dyes which are particularly useful in fabrics that are to be after-treated with melamine-formaldehyde or the urea-formaldehyde resins.

*Trade-mark

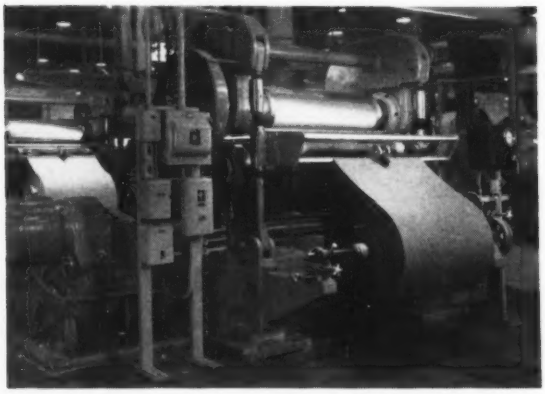
In 1953 over 15,000 persons representing plant and community groups enjoyed the picnic grounds of Cyanamid's 15-acre park at Bound Brook.

View of finishing operation at The Springs Cotton Mills, Grace Bleachery Division showing Appleton Machine Company 20 Ton Embossers and 50 Ton Schreiner Calenders.

Colonel Elliott Springs Chooses Appleton



One of three Appleton 20 Ton Embossers in use at The Springs Cotton Mills, Grace Bleachery Division.



One of three Appleton 50 Ton Schreiner Calenders specially adapted for everglaze finishes at Springs Cotton Mills, Grace Bleachery Division.

The uncommon elegance of Springmaid sheets can be attributed to Colonel Elliott Springs' shrewd judgment of textile machinery.

According to a trade journal article, the famous Springs Cotton Mills owner demands equipment that meets these requirements:

1—It must be modern.
2—It must be well made.
3—It must be the best available.

There never was a better time to invest in efficient equipment. If you would like to own the finest embossers or calenders in the industry, write or call an Appleton representative today. He will gladly analyze your needs, *without obligation.*

APPLETON MACHINE COMPANY
APPLETON WISCONSIN

CUSTOM-BUILDERS OF TEXTILE CALENDERS • CALENDER ROLLS OF ALL KINDS

calculated from these 24 samples.

High Lickerin Speeds Show Conflicting Results

Ten mills reported experiments on high lickerin speeds. Two mills got good results, three found the high speeds a disadvantage, three got better cleaning but more waste, and two just didn't like the higher speeds.

One mill that increased the lickerin speed from 390 rpm. to 790 rpm., but changed no settings, showed a 10% nep increase. One mill that used various settings returned to the original settings to get fewer neps and a cleaner web.

One mill has 200 cards with the lickerin running at 800 rpm. and has increased production, reduced neps, and increased yarn strength slightly by using closer settings. The most important changes were between the feed plate to the lickerin and the lickerin to the cylinder. Both settings were closer than normal, and the flat speed was set to 2.57 ins. per min.

Card production on different grades of cotton was increased as follows: Middling and SLM from 8 to 12.7 lbs. per hr., LM from 12.7 to 18 lbs. per hr., and SGO from 15 to 25 lbs. per hr.

More Sliver in Cans

Nylon trumpets have increased can contents from 10 to 30%. Several mills do not care for these trumpets because they slow the doffer, cause extra pressure on the gears, have a tendency to collect clearer waste, wear rapidly, and cause the coiler heads to become noisy.

Spring-type compressors on the card calendar roll have increased the can content from 10 to 33⅓%. No effects have been noticed on sliver evenness, but one mill reported that the spring compression units cause excessive wear on the cotton calender-roll shafts and bearings. The units are also hard on lickerin and doffer belts.

Large sliver cans showed increases in can content up to 50%. This increase will allow a 14% increase in card workloads and increase drawing workloads 10%. In one mill, 14-in. cans were substituted for 12-in. cans. The larger cans showed an increase in running time from 55 mins. to 80 mins. and an increase in weight from 10.4 to 15 lbs. per can.

Drawing Sliver Improved

New top, bottom, and calender rolls on the drawing frame in one mill improved sliver uniformity. Another mill goes over the drawing frames every month to make corrections.

A mill running 60-gr. sliver with six ends up has these settings on the breaker drawing frame: 1st to 2nd, 1⅜ ins.; 2nd to 3rd, 1⅞ ins.; and 3rd to 4th, 1⅛ ins. On the finisher drawing, the roll settings are: 1st to 2nd, 1⅛ ins.; 2nd to 3rd, 1½ ins.; 3rd to 4th, 1¾ ins. SLM cotton with ⅛-in. staple is used.

Evenness has been improved in one mill by weighing and checking sliver from each delivery of the drawing frames every 4 hrs. The Uster tester is used extensively to locate irregularities.

Uniformity in drawing sliver was improved by changing from cork top rolls of various sizes to synthetic rolls of uniform size. New ball-bearing hardened rolls also improved uniformity. A change to eight ends up brought a decrease in unevenness in the finisher drawing.

Tongue-and-groove calender rolls on drawing frames put up to 50% more sliver in the can. The drawing is even, but ends down increase on long-draft speeders and on the spinning frame.

Textile Calendar

Course on Applied Mechanics of Textile Structures, Mass. Institute of Technology, Cambridge, Mass., July 19 to 30.

Southern Industrial Relations Conference, Blue Ridge, N. C., July 21 to 24.

Short Course on Textile Quality Control, N. C. State College School of Textiles, Raleigh, N. C., August 9 to 13.

Canadian Textile Seminar, Queen's University, Kingston, Ontario, Sept. 9, to 12.

AATCC, Piedmont Section, annual meeting, Hotel Barringer, Charlotte, N. C., Sept. 10 and 11.

The Fiber Society, fall meeting, in conjunction with Textile Technical Federation of Canada and Canadian Assn. of Textile Colorists, McGill University, Montreal, Canada, Sept. 13 and 14.

AATCC, national convention, Atlanta Biltmore Hotel, Atlanta, Ga., Sept. 15 to 18.

Combed Yarn Spinners Assn., annual meeting, Grove Park Inn, Asheville, N. C., Sept. 23 and 24.

Industrial Packaging and Materials Handling Exposition, Competition, and Short Course, Chicago Coliseum, Chicago, Ill., Sept. 27 to 30 (course), Sept. 28 to 30 (exposition).

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 8.

Chemical Finishing Conference, National Cotton Council, Statler Hotel, Washington, D. C., Oct. 7 and 8.

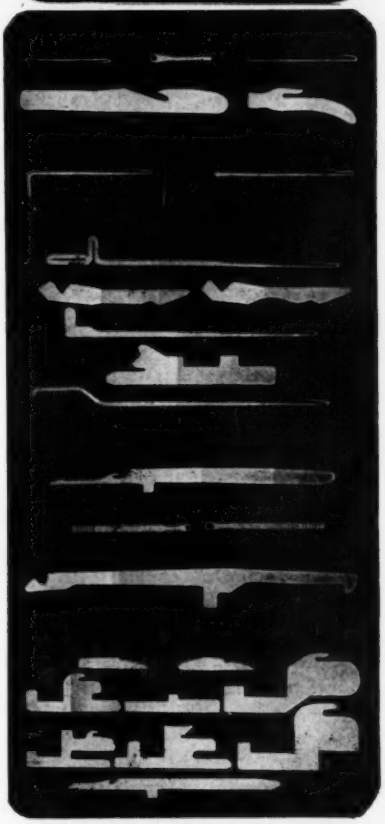
N. C. Textile Mfg. Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 14 and 15.

TOE of Georgia, A. French Textile School, Georgia Tech, Atlanta, Ga., Oct. 23.

Carded Yarn Assn., annual convention, Atlanta, Ga., Nov. 11 and 12.

THE LOYAL T. IVES COMPANY

SPRING BEARD KNITTING NEEDLES

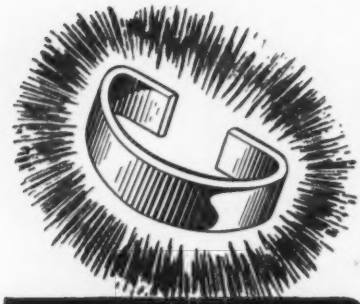


The Ives Company manufactures all known types of Spring Beard needles — for circular, full-fashioned and tricot knitting machines.

Also, Sliders, Sinkers, Jacks, Guides, Sley Points, Looper Points, Transfer Points or Quills, for Spring Beard and Latch Needle knitting machines.

Complete line, all gauges and styles of Needles, Guides, Sinkers and Sley Points for Reiner, Avisco and Whitin Tricot machines. Also equipped for complete casting and squaring service for Tricot machines.

NEW BRUNSWICK NEW JERSEY



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FIFTY YEARS IS A LONG TIME

For fifty years and more, Dary ring travelers have enjoyed a sound reputation in the textile trade. We at Dary are proud to have maintained that reputation so consistently—because half a century is a long, long time.

Our experience is yours to command. Consult your friendly Dary representative!

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JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

News OF THE MONTH

Consumer Is the Key

More research into the motivations behind consumer's decisions to buy or not to buy was urged by H. K. Hallett in a speech delivered to the annual meeting of American Cotton Manufacturers Institute. Mr. Hallett expressed his belief that this type of research is as important as research in fiber developments and mill processes. "What really makes people buy" is the key to prevent "boom and bust" in the textile industry.

Human Relations

"It is management's job to think in terms of people and to act in a way that will build and strengthen the individual dignity of every citizen, and, thereby, our system of free enterprise," Herbert L. Werner of Werner Textile Consultants recently said in a speech at Atlantic City. According to Mr. Werner, three areas to apply sound human relations are: employees' attitudes towards their jobs, their supervisors, and all of management.

Inventor Honored

SANFORD L. CLUETT (right) was presented with a plaque expressing the appreciation of Cluett, Peabody & Co. for his years of loyal service and inventive genius. The occasion was a dinner honoring Mr. Cluett on his 80th birthday given by the Textile Square Club. Barry T. Leithead, president of Cluett, Peabody, presented the plaque.

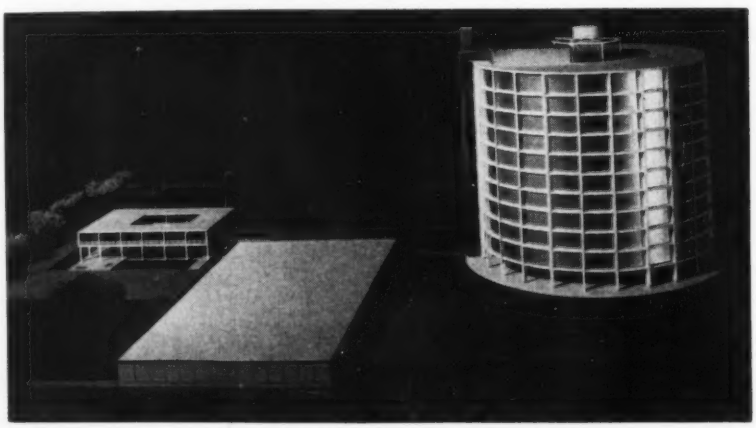
New Acetate

New acetate continuous-filament yarn and staple fiber with a melting point about 120° F. higher than regular acetate is being produced on an experimental basis by Courtaulds Ltd. Fabric made of the new acetate yarn will take a permanent pleat, and the dyeing qualities are reported to be different.

Cotton

▶ Cotton consumption has made a competitive gain of 1.5-billion yards per year for the past few years, according to the National Cotton Council. Comparisons in market percentages between 1948 and 1953: street dresses, 12% increased to 25%; house dresses,

Mill of the Future?



A PRIZE-WINNING DESIGN in the textile-mill-of-the-future competition, sponsored by the National Association of Cotton Manufacturers and held among students at Massachusetts Institute of Technology, was this 10-story circular mill by Eldred Blakewood and John Stopfel. Materials handling is said to be the feature of the mill.

Only with SOLVAY CHLORINE

do you get these 3 EXCLUSIVE SERVICES

(1) Exclusive Chlorine Safety Service

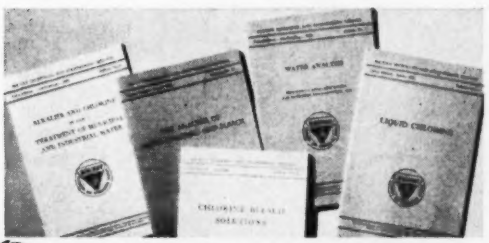
SOLVAY has long been a leader in the development of safety programs for chlorine users. It has pioneered employee safety training programs and initiated the latest advances in safety practices.

SOLVAY has designed and engineered special kits for emergency repairs to every type of SOLVAY Chlorine container.

These SOLVAY Safety Kits may be purchased by SOLVAY Chlorine users . . . or in an emergency they may be borrowed at various locations without charge. Booklets describing these kits with detailed instruction on their use are supplied at no cost. SOLVAY customers can also obtain – free of charge – SOLVAY'S Safety Charts for employee instruction on safety practices . . . procedures to follow in an emergency . . . and the location of the *nearest* SOLVAY repair kits.

(2) A Specialized Technical Service

Only SOLVAY offers you an *industry-wise* Technical Service that is devoted exclusively to chlorine users in textile, paper, water, sewage and other industries. SOLVAY'S staff of engineers, chemists and technicians are available AT NO COST OR OBLIGATION!



(3) Exclusive Series of Technical Bulletins

SOLVAY'S technical bulletins are recognized as one of the most highly reliable sources of information on chlorine and its uses.

These bulletins are: Bulletin No. 7, "Liquid Chlorine," Bulletin No. 8, "Alkalies and Chlorine in Treatment of Municipal and Industrial Water," Bulletin No. 11, "Water Analysis," Bulletin No. 12, "The Analysis of Liquid Chlorine and Bleach," Bulletin No. 14, "Chlorine Bleach Solutions."

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We'll prove to you that the Mount Hope System can bring your plant these benefits immediately — through co-ordinated use of time-saving and labor-saving devices that attach to your present machines, amortize their cost within months.

Read how this company profits!

MOUNT HOPE MACHINERY COMPANY

NEWS *of the Month*

(Continued)

79% to 86%; women's blouses, 21% to 48%; women's skirts, 11% to 34%; sport shirts, 40% to 56%. However, in the industrial field, cotton has suffered "tremendous losses."

► The Cotton Council also points out that the American cotton crop gained 6% in average fiber length and 6.7% in strength during a recent 10-year period.

► According to ginners' estimations, about 57% of the 1953-54 cotton crop was harvested by hand picking, 21% by hand snapping, and 22% by mechanical pickers or strippers.

Leasing Fork Trucks

A subsidiary of Clark Equipment Co., Battle Creek, Mich., has been formed to finance leasing of its equipment. Under the leasing plan, equipment is leased for a three- or five-year period at a simple interest rate of 3.79% of the cost of the equipment.

Canadian Textile Seminar

TEXTILE WORLD editors will take an active part in the Fourth Canadian Textile Seminar at Kingston, Ont., in September. James H. Blore, assistant editor, will talk about how knitters in the South are tackling their problems, and Henry D. Grimes, consulting editor, will present a paper on "The Dyeing of Wool and Wool-Synthetics Blends." Francois E. Cleyn, consulting editor, is a chairman of the woolen and worsted section.

Safety

► At the President's Conference on Occupational Safety, President Eisenhower greeted the 3,000 delegates with these words: "We ought to stop the kind of accident that apparently is so often brought about by lack of training or through carelessness. If you can only reduce the appalling bill the nation must pay, not only in terms of the material things we have lost but in the suffering of people who undergo the accidents, the loss of life that occurs, the charge upon our hospitals, and all the rest of it, then you will indeed be doing something that you can definitely and clearly know is in the interest of the United States."

New ITT Building

NEW AUDITORIUM, honoring textile pioneer Stuart W. Cramer and donated by Callaway Mills and the Callaway Foundation, was dedicated May 13 at the Institute of Textile Technology, Charlottesville, Va. Mr. Cramer developed textile air conditioning and engineered 150 Southern mills. ITT marked its tenth anniversary in April.

LTI Reunion

EDWIN D. FOWLE, publisher of TEXTILE WORLD, was the main speaker at the alumni reunion held by Lowell Technological Institute during the American Textile Machinery Exhibition. Mr. Fowle, whose subject was "Opportunities in Textiles," addressed the largest reunion ever held by the school. Over 450 students and faculty members attended the show, and 400 alumni and students were at the reunion.

Bur-Mil Sued

A suit against Burlington Mills has been filed in U. S. District Court by Heberlein Patent Corp., contending that a stretchable nylon yarn made by Burlington infringes on the patent held by Heberlein for making Helanca.

Mill Developments

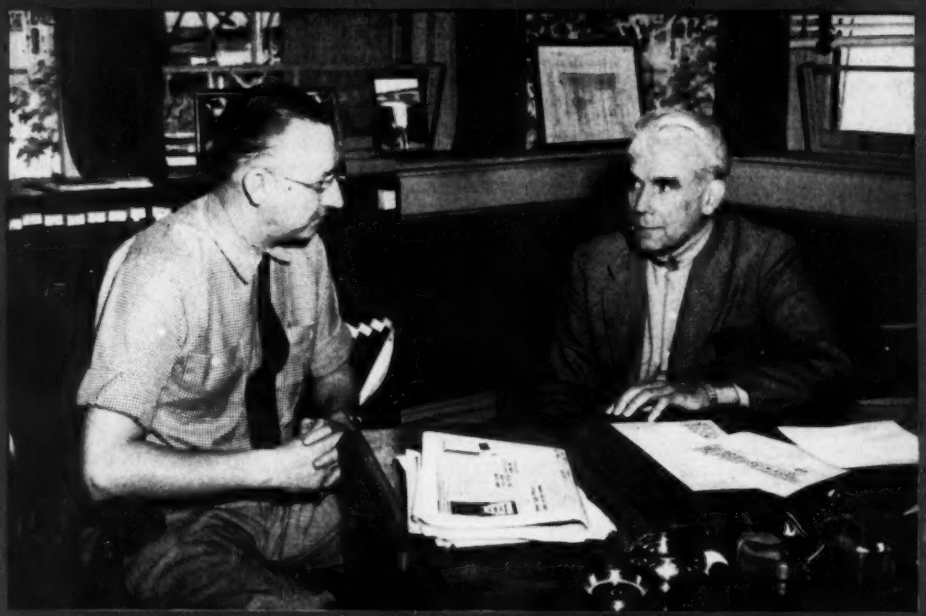
► 100% Acrilan blankets, called Glolon, are being made by Pepperell Mfg. Co. Shrinkage is said to be under 2% after repeated washing. A 72x90-in. blanket weighs 3¾ lbs.

► Fieldcrest Mills, Inc., has gone into the fitted nylon-tricot-sheet business.

► Goodall Fabrics, Inc., has developed a 25-oz. knit-back plastic for upholstery. Fifty-two-inch fabric will sell

Mount Hope SYSTEM

"Paramount Printing and Finishing Company increased production 2500 YARDS per machine per shift—reduced seconds, eliminated bumping rolls to align cloth!" says Plant Engineer E. Wesley Adams.



"Installation of this equipment is a must!" Albert R. Davidson, Vice President of Paramount, at right, discusses Mount Hope System with Plant Engineer Adams.

"It was my belief years ago that the installation of a continuous scray was a modern streamlining necessity in any operation in a plant where time was lost and extra labor employed in stopping to sew on," Mr. Davidson states. "The Mount Hope product has fulfilled to the highest degree this function. Increased production, ease of operation, better labor relations and standard of work loads, have been greatly reflected in a reduced cost of operation. The installation of this equipment is a must in our Grey Room, Print Room Dye House, Washers, Frames and Calenders, and our entire plant production reflects its time and labor saving efficiency."

Get the facts now! Start savings in your plant promptly — to strengthen your competitive position. Call your Mount Hope Representative — or have a Mount Hope Engineer survey your plant without obligation, to reveal your profit potential.

MOUNT HOPE MACHINERY COMPANY

15 FIFTH STREET, TAUNTON, MASS.

MECHO AIR GUIDER

MILES OF CLOTH
WITHOUT A WRINKLE

Endless testing, checking, proving and redesigning, coupled with work and consultation with some of the largest finishing plants in the country, have resulted in this ideal type of guider, the MECHO.

All parts are changeable and double edges, spattering or costly shutdowns need no longer be problems if you choose the MECHO. While in operation it can be adjusted to handle from the lightest of fabrics to #8 duck and variations in speed from 1 yard per minute to 400 yards per minute.

MECHO Guiders will work unfailingly in any position, are low in initial cost, and maintenance is practically nil. If you do not have our latest bulletin we suggest that you write us for one.

Send for your copy of our NEW BULLETIN

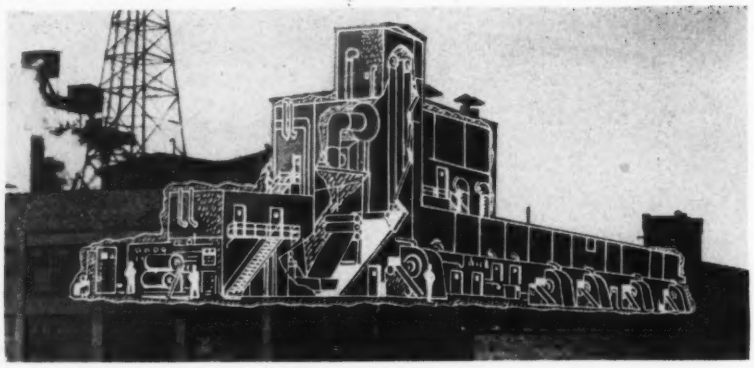
THE GUIDER SPECIALTY CO.
425 WEST ROCK AVENUE
NEW HAVEN (15), CONN.

SOUTHERN REPRESENTATIVES
McSPADDEN & SCANTLAND
P. O. BOX 3635 CHARLOTTE 3, N. C.

NEWS *of the Month*

(Continued)

3-T Tire Cord



CUTAWAY VIEW of plant shows the machine for triple-tempering nylon cord fabric. The machine occupies an area 150 ft. long and 60 ft. high. A third of a mile of fabric is in process at one time. The processing features chemical treatment, high tension, high temperature, tower drying, and electronic tension and stretch controls. Besides this Akron, Ohio, plant, a plant is in operation at Cartersville, Ga., and a third is under construction at Rockmart, Ga.

for $1.67 per yd. to the furniture trade. Six colors will be made.

► An all-rubber ¼-in. carpet cushion is in production at the General Tire & Rubber Co. The underlay will sell for $1.95 per sq. yd.

Nylon

► Chemstrand nylon yarn is available in five more deniers: 10/1 at $9; 50/17 at $2.15; 140/68 at $1.85; 200/34 at $1.75; and 210/34 at $1.65 per lb. Prices are for Chemstrand's standard "no-break" quality. "Break" yarn (up to two breaks per bobbin) is offered at 5¢ less.

► Industrial Rayon Corp. is expected to market nylon staple from its Covington, Va., plant by October.

► National Aniline Div., Allied Chemical & Dye Corp., is expected to start production of Type 6 nylon in its Hopewell, Va., plant before the year is out.

Carded Goods Sold For Combed

Knitted goods made from carded cotton yarns and bearing "combed-yarn" labels are appearing on the market in increasing numbers.

As there is no legal definition of these terms, the Underwear Institute is writing a definition of the term "combed yarn" and is devising tests that will demonstrate whether a yarn is combed or carded. The approval and the adoption of the definition and tests will be sought from the Bureau of Standards so that a legal basis for the prosecution of fraudulent labeling may be secured.

Wage Cut

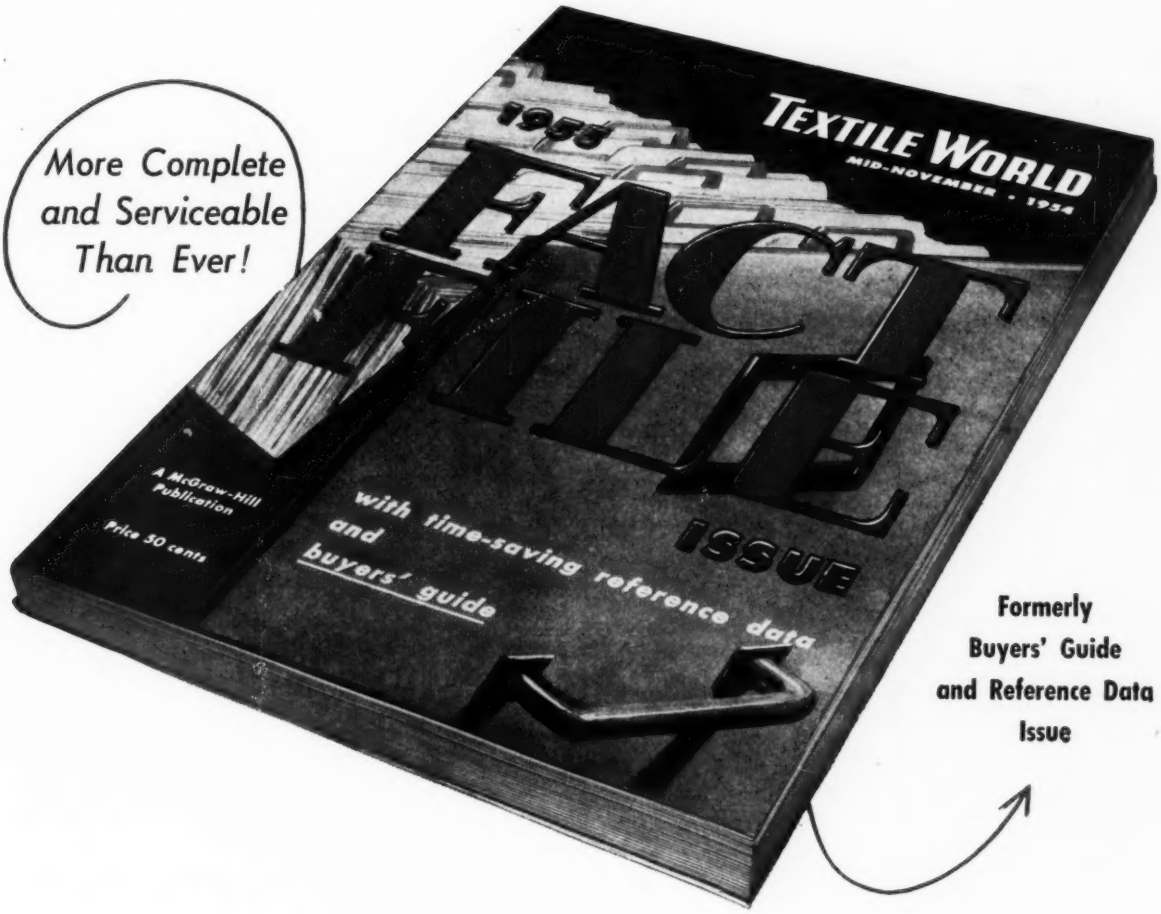
A wage cut of 9½¢ an hour was ordered by an arbitrator in the wage dispute between Botany Mills, Inc., Passaic, N. J., and the Textile Workers Union of America (CIO). The company had asked for a 16½¢ cut; the union wanted a continuation of the wage rate.

Honored for Executive Skill

P. H. BURRUS, JR., vice president of Jackson Mills, Wellford and Iva, S. C., won an Award for Merit presented by the Research Institute of America for his "contribution to executive skills in 1953." In addition to the individual award to Mr. Burrus, a citation was presented to Jackson Mills. The communications program at Jackson, featuring a general news letter plus a "manager's memo" column in the company paper, was the basis for the award.

A COVER TO REMEMBER!

TEXTILE WORLD'S Mid-November Issue . . .



TEXTILE WORLD is at work on the new FACT FILE issue to be sent to all subscribers in mid-November of this year. Known to you last year as the Buyers' Guide and Reference Data Issue, the newly designed, improved, and handier FACT FILE issue will be easily distinguishable from regular issues of TEXTILE WORLD.

Between the new covers, you will find an accurate and complete Buyers' Guide of product listings and a Reference Data section of short-cut tables and other units of useful technical and engineering data.

Remember the name—FACT FILE issue—coming your way in mid-November!

TEXTILE WORLD

FIRST in Circulation
FIRST in Mill-Management Subscribers
FIRST in Readership
FIRST in Advertising Volume

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TEXTILE WORLD'S

FACT FILE

ISSUE

A McGraw-Hill Publication, 330 W. 42nd St., New York 36, N. Y.

HOW TO EFFICIENTLY CHELATE IRON THROUGHOUT pH RANGE...

THE *Versenes*®

VERSENE REGULAR

pH 2.0 — 7.0

REASON FOR USE
most stable chelate, most economical.
COMMENTS
best chelating agent for iron in acid solutions. Also chelates other polyvalent metals throughout pH range.

VERSENE REGULAR
(original EDTA) — An excellent Chelating (complexing) Agent for iron in *acid* pH range. Loses effectiveness for iron as pH increases above 7. Also chelates other polyvalent metals throughout pH range.

VERSENE Fe-3 SPECIFIC

pH 7.0 — 12.5

REASON FOR USE
very stable chelate, most economical.
COMMENTS
do not use with strong oxidants.

VERSENE Fe-3 SPECIFIC
Efficiently chelates iron in pH range from 7 to 12.5. Quantity of Versene Fe-3 Specific must be increased to keep a given amount of iron in solution as pH increases.

VERSEN-OL®

pH 3.0 — 12.5

REASON FOR USE
first chelates iron, then, until exhausted, deactivates other polyvalent metals.
COMMENTS
do not use with strong oxidants.

VERSEN-OL®
(N-hydroxyethylethylene diamine triacetic acid tri sodium salt.) Similar to Versene Fe-3 in effect. Differs by first inactivating any iron ions present before going on to Ca, Mg and other polyvalent metal ions. Reacts with all polyvalent metals on a mole-to-mole ratio. At high pH's, it loses some efficiency for iron, and more is required.

VERSENE Fe-3

pH 2.0 — 12.5

REASON FOR USE
chelates limited quantities of iron plus large amounts of other metal ions if present.
COMMENTS
ratio of iron in alkaline solution must not be excessive to the Versene Fe-3 used. Strong oxidants may reduce effectiveness of this component.

VERSENE Fe-3
(A physical blend of Versene Regular and Versene Fe-3 Specific.) Combines effect of both compounds but each works independently. The Versene Regular component acts only toward polyvalent metal ions other than iron but the Versene Fe-3 Specific component specifically chelates the iron in alkaline solutions.

VERSENE-T

pH 12.5 to high conc. of Caustic

REASON FOR USE
prevents precipitation of iron or dissolves iron rust in caustic solutions.
COMMENTS
do not use with strong oxidants.

VERSENE-T
Most efficient iron Chelating Agent known for use in caustic solutions. Will not function *unless* free caustic is present. Also chelates other metals including Ca, Mg, Cu, Ni, Co, etc.

NOTE: Iron Chelating Agents containing hydroxyl groups may be oxidized by peroxide, chlorine, hypochlorite, etc. which destroys the ethanolic groups. Hence, only Versene Regular is recommended when complete stability is required in presence of strong oxidants.

Ask for Technical Bulletin #2. Competent Counsel available for those who want maximum chelating efficiency at minimum cost.

"Chemistry's most precise chemicals"

BERSWORTH CHEMICAL CO.
FRAMINGHAM, MASSACHUSETTS

KEY TO CHELATION

NEWS ABOUT Suppliers

EQUIPMENT SUPPLIERS

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has named O. V. Tally director of industrial sales; J. S. Morgan director of utility sales; W. L. Manly director of general purpose equipment sales; M. M. York head of the newly formed Northwest sales region; J. H. Burrus, Jr., manager of the Midwest region; and John E. Smet manager of the New England region.

American Air Filter Co., Inc., Louisville, Ky., has named John W. Frazier to the newly created position of field manager of Air Filter Sales.

Babcock and Wilcox Co., Alliance, Ohio, has announced the following appointments at the Research & Development Center: P. R. Grossman, chief research engineer; A. F. Boehm, manager of facilities; G. A. Watts, superintendent of the products section; J. F. Wachunas, superintendent of the technical services section; and W. O. Stone, Jr., purchasing agent of the center. Harry W. Doctor has been named district sales manager for the Tubular Products Div. Mr. Doctor will be in charge of the new sales office in Cincinnati, Ohio.

Barrett-Cravens Co. has started operations in its new plant at Northbrook, Ill. Operations of the two Chicago plants and the Crescent Truck Div., Lebanon, Pa., have been consolidated here.

Bassick Co., Bridgeport, Conn., has named Michael Kramesak, Jr., chief of engineering.

Borg-Warner Corp., Chicago, Ill., has elected E. S. Russey to the board of directors. Albert Steg has been elected treasurer and controller, E. Hunter Gehlbach, secretary, and John H. Schultz, assistant secretary.

H. Brinton Co., Philadelphia, Pa., has appointed John H. De Witt treasurer.

Container Corp. of America, Chicago, Ill., has appointed Frank G. Jones division general manager of the company's shipping-container plants at Rock Island, Ill., Fort Worth, Tex., Muskogee, Okla., and Sioux City, Iowa. He will make his headquarters at Rock Island.

Foxboro Co., Foxboro, Mass., will construct a new branch fac-

HENRY AGULNEK has been elected a vice president of Supreme Knitting Machine Co., Ozone Park, N. Y. Mr. Agulnek will be in charge of research and development.

J. L. PISHKE has been elected president of the American Mono-Rail Co., Cleveland, Ohio. He succeeds J. P. Lawrence, who has been elected chairman of the board.

News About **SUPPLIERS** (Continued)

KENNETH M. IREY has been elected assistant vice president of Heyden Chemical Corp., New York, N. Y.

tory in San Leandro, Calif. The new plant will contain 8,400 sq. ft., doubling the present production area in San Francisco.

Herr Mfg. Co., Buffalo, N. Y., has appointed Robert M. Leach representative for New England and eastern Canada.

Hyster Co., Portland, Ore., has appointed Les Jensen Eastern division sales engineer. Mr. Jensen will work out of the Danville, Ill., plant.

Koppers Co., Inc., Pittsburg, Pa., has appointed H. A. Denny vice president and assistant general manager of the Engineering & Construction Div. Other appointments are A. B. Fisher, Jr., general superintendent of construction; George P. Wilson, production manager; Richard W. Vollmer, manager of the Chemical & Gas Dept. of the Engineering & Construction Div.; Dr. T. E. Robbins, assistant manager of the laboratory section, succeeding Dr. B. F. Danbert, resigned; and R. S. Detrick, assistant manager of the laboratory branch. Dr. H. E. Tiefenthal will replace Dr. Robbins as group leader.

Minnesota Mining & Mfg. Co., St. Paul, Minn., elected Kenneth J. Shea vice president in charge of sales for the International Div. E. Harlan Church has been elected treasurer, and Eugene F. Kindler has been named assistant treasurer. George J. Wachholtz has been made controller of Minnesota Mining.

Reliance Electric & Engineering Co., Cleveland, O., has named H. Bigelow Moore as sales application engineer in the Philadelphia, Pa., office.

Robertshaw-Fulton Controls Co. has appointed Lawrence C. Connolly manager of the Boston, Mass., sales office of the Fielden Instrument Div.

J. O. Ross Engineering Corp., New York, N. Y., has appointed Charles R. Hester a sales engineer in its Detroit, Mich., office.

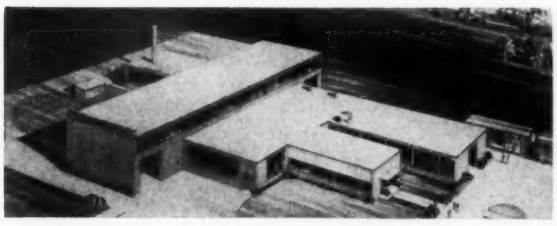
Sonoco Products Co., Hartsville, S. C., has named W. H. Miller director of sales.

Morris Speizman Co., Inc., Charlotte, N. C., has named Alex McCance sales director in charge of the Northeastern territory.

A. E. Staley Mfg. Co., Decatur, Ill., has elected Robert J. Murphey and Roy L. Rollins to the board of directors.

Standard Pressed Steel Co., Jenkintown, Pa., has promoted William M. Briner to supervisor of industrial relations, William M. Kerrigan to supervisor of production controls, and William J. Park to manager of quality control.

Westinghouse Electric Corp.,



STOWE-WOODWARD, INC., Newton Upper Falls, Mass., is nearing completion of this new rubber-roll-covering plant in Griffin, Ga. The new plant is the first of its type to be located in the South.

Shamrock No. 19 Trucks with "Vyntex" Plastic-coated Duck Body.

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SHAMROCKS
when you want
RUGGED WEAR
...LONG SERVICE!

Look carefully at any Shamrock's sturdy construction. You'll see why many textile plants report longer years of wear, at low cost, from famous Shamrock products. Shamrocks are used the world over—and an extensive range of styles is designed for textile plant needs . . . for example, the Shamrock No. 19 "Vyntex" Truck shown at top. Also, special Shamrocks will be made-to-order for your particular needs. Contact nearest sales office or write direct. MEESE, INC., Madison, Indiana.

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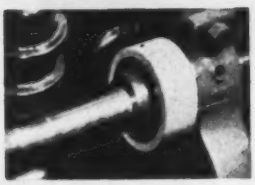
Precision LICKER - IN Bearings for Cards, have sealed lubrication, eliminating oiling and soiling, hold a constant setting. Available for nearly all cards and kept in stock.

ROVING

Present roving frames made better-than new. 10 different ball bearing applications. Modernize the frame or install single units. Shown is Top Cone bearing unit.

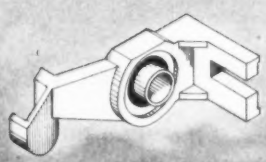


SPINNING

From Precision only, standard or special cams with exclusive Slough Guard features - filling or warp wind. Less operating cost, more production, better performing bobbins.

WEAVING

Loom Take Up Roll bearing eliminates shaft re building, holds a setting indefinitely, requires no lubrication. This is one of nearly 30 PRECISION-Exclusive ball bearing units for a Rebirth of Life to old looms.



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CHAIN DRIVES : GEARS : BEARINGS

News About **SUPPLIERS** (Continued)

Pittsburgh, Pa., has appointed Donald C. Burham vice president in charge of engineering. Walter J. Maytham, Dale McFeatters, and Otis O. Rae have been elected vice presidents. E. V. Huggins has been named secretary.

Worthington Corp., Harrison, N. J., has named E. J. Tribble assistant vice president in charge of manufacturing; A. M. Tullo works manager of the Harrison plant; and L. E. Hammer works manager of the Wellsville, N. Y., plant. Donald H. McCuaigh has been named manager of application engineering for the entire Air Conditioning & Refrigeration Div.

CHEMICAL AND YARN SUPPLIERS

Allied Chemical & Dye Corp., Solvay Process Div., New York, N. Y., has named Denman Peniston assistant to the president; John H. Elloman director of sales; and Arthur Phillips, Jr., Harry R. Stoothoff, and Neal M. Draper assistant directors of sales.

American Cyanamid Co., New York, N. Y., has appointed Dr. J. C. Pullman assistant to the manager of the New Products Development Dept. Dr. J. P. Milionis has also joined this department. Linton A. Fluck has been named manager of the Textile Resin Dept., Bound Brook, N. J. Dr. Theodore F. Cook has been made assistant to the department manager of the Textile Resin Dept., and Philip B. Roth has been named manager of the Application Laboratory.

American Viscose Corp., Sylvania Div., Philadelphia, Pa., has named William Hadfield a salesman in the Philadelphia area. Charles Gilmore has been promoted to assistant engineer of the acetate plant at Meadville, Pa., succeeding Edward L. Wooley, who has been transferred to the cellophane plant at Fredericksburg, Va. Mr. Wooley succeeds Eugene W. Cornwall, who has been named advisory engineer of the Sylvania Div.

Berkshire Color & Chemical Co., Delawanna, N. J., has appointed Ralph E. Elwell Southern sales representative. Mr. Elwell will make his headquarters in Charlotte, N. C.

Carbide & Carbon Chemicals Co., a division of Union Carbide & Carbon Corp., New York, N. Y., has organized a new Southwestern Div. F. J. Ranscher will be in charge of this new sales division. Other district sales managers that have been appointed are: H. L. Harwell, St. Louis, Mo.; J. W. Ross, Pittsburgh, Pa.; J. R. Hulten, Philadelphia, Pa.; J. F. Luther, Albany, N. Y.

Columbia-Southern Chemical Corp., Pittsburgh, Pa., has elected Joseph A. Neubauer and David G. Hill to the board of directors.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has promoted Arthur M. Saunders to the newly created po-

S. A. SEGAL (left) has been elected secretary of National Starch Products, Inc., New York, N. Y., succeeding James Dillon (right), who has been elected vice president.

News About **SUPPLIERS** (Continued)

sition of director of sales in the Textile Fibers Dept.

Emery Industries, Inc., Cincinnati, Ohio, has named J. E. Quinty to assume sales responsibility for all of Emery's fatty acids and derivatives, plasticizers, and textile oils in northeastern Pennsylvania and parts of northern New Jersey. W. J. Major has been named to the chemical sales staff.

W. F. Fancourt Co., Philadelphia, Pa., has named Walter F. Fancourt, III, president. John L. Fancourt succeeds him as vice president. Miss Josephine Patla has been named secretary.

General Aniline & Film Corp., New York, N. Y., has named Frank L. Esposito controller of General Dyestuff Corp. and of the Dyestuff and Chemical Div. of General Aniline & Film Corp. Mr. Esposito succeeds Arthur J. Young, who was recently elected controller of General Aniline & Film Corp.

General Electric Co., Silicone Products Dept., Waterford, N. Y., has named Fred M. Pugh manager of the Midwestern sales district.

Hilton-Davis Chemical Co., Cincinnati, Ohio, has appointed S. Y. Stribling, III, Southern manager of textile pigment sales, with headquarters in Greenville, S. C. William S. Pearson has been named to serve textile mills in Georgia, Alabama, and Tennessee.

Libbey-Owens-Ford Glass Co., Toledo, Ohio, has appointed William R. Browne sales representative for the Fiber Glass Div. in the New York area.

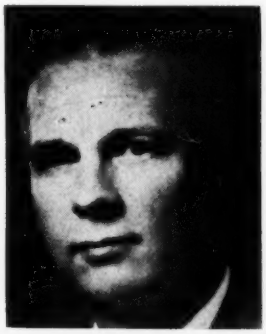
Oakite Products, Inc., New York, N. Y., have appointed the following new technical service representatives: Richard J. Price, Portland, Ore.; Malcolm N. Gray, Lincoln, Neb.; John N. Lee, Miami, Fla.; Gale R. Miller, Cincinnati, O.; Kenneth L. Oliver, Fort Wayne, Ind.; Thomas D. Ellsworth, Grand Rapids, Mich.; D. O. Mundale, Asheville, N. C.; Haskell Wilder, LaCrosse, Wis.; Lloyd W. Kagley, Knoxville, Tenn.; William D. Hudson, Topeka, Kan.; and Henry W. Dieter, Youngstown, Ohio.

Onyx Oil & Chemical Co., Jersey City, N. J., has named Dr. Emery I. Valko director of research.

A. E. Staley Mfg. Co., Decatur, Ill., has appointed Ralph R. Dombroski acting manager of its San Francisco, Calif., branch sales office. Don D. McCaleb has been named assistant manager of the San Francisco office.

Stauffer Chemical Co., San Francisco, Calif., has elected Christian de Guigne to the new position of chairman of the board. Hans Stauffer has been elected president. John Stauffer, vice president and secretary, has assumed the responsibilities of chairman of the executive committee in addition to his present duties.

W. W. FRYMOYER has been elected a vice president of the Foxboro Co., Foxboro, Mass.



E. R. FRIESE has been named vice president of Sun Chemical Corp., New York, N. Y.

DO YOU PROCESS

Helanca Yarns?

If so it will pay you to investigate these new ACROPAK precision aluminum Bobbins

They stand up under high pressure

These precision ACROPAK Bobbins are of advanced engineering design; light weight, yet stronger and more rigid than old fashioned bobbins. They breeze through high pressure runs without distortion or bobbin failure. You can be sure of concentricity and level winding. They do the job better and with greater accuracy. Light weight speeds up handling, gets more work done with less operator fatigue. A trial run will convince you. Will you let us give you the facts?

ACROPAKS will save you money

When you use Bobbins that last longer, do the job better and refuse to break down under pressure, you gain an important advantage competitively. Ask for the facts. Available in all standard dimensions, with perforated barrels, if desired, for steaming.

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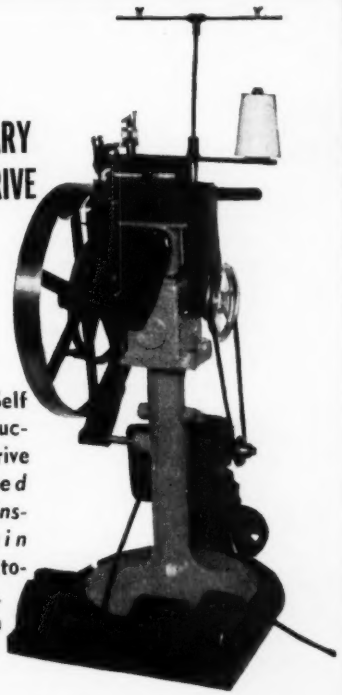
MODEL 8-D-1

PORTABLE ROTARY WITH MOTOR DRIVE



No exposed gears. Self lubricated gear reduction unit. Chain drive to *Merrow Butted Seaming Head* or *Dinsmore Single Chain Stitch Head.* Automatic cloth stripper. Wide range of stitch requirements.

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Current conditions make it imperative that all elements of cost be carefully controlled. The Barnes cost controls are:

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LM is a method of labor measurement developed as a means of exercising complete control of manufacturing labor costs. Gains and losses that result from efficiency deviations are separated from those created by variations in either the manhours or number of personnel required by actual operations.

BM is a measurement of overhead that provides an effective means for controlling actual expenditures. Gains or losses of "fixed overhead" resulting from other than normal activity are segregated from under or over expenditure variances. The charges for "variable overhead" are compared with budgeted amounts adjusted to actual operations.

WM is a method by which all types of actual waste are measured by predetermined standards. Each week the waste made by type and process is compared to a calculated standard pounds and the gains or losses evaluated in dollars.

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NEWS ABOUT Mills

COTTON MILLS

Bell Textile Co., New York, N. Y., has purchased Dalton Carpet Mills and Dalton Rug Mills, Dalton, Ga. Plans are being made for the expansion of production facilities.

Sidney Blumenthal & Co., Inc., Shelton, Conn., is nearing completion of a new plant near Scotland Neck, N. C., to weave pile fabrics. The first unit will contain 30,000 sq. ft. Plans have been made to allow a future expansion to 150,000 sq. ft. The new plant is part of an extensive expansion program that includes the addition of 200,000 sq. ft. at the Caramount Div., Rocky Mount, N. C., and 60,000 sq. ft. at the Wilson Div., Wilson, N. C.

Brookford Mills, Hickory, N. C., is laying a new floor in its weave room.

Cherokee Textile Co., Sevierville, Tenn., is grading the site for a new plant that will contain more than 200,000 sq. ft. of floor space. Daniel Construction Co., Greenville, S. C., is the contractor.

Coastal Mills, Inc., Dillon, S. C., is spending about $100,000 on machinery and other equipment in its modernization program. Coarse yarn will be manufactured for the rug and webbing trades. A dye plant will be installed.

Cone Mills Corp., Greensboro, N. C., has placed an order for 485 new 44-in. Draper looms for use in the modernization of its denim mills at Greensboro.

Deering, Milliken & Co., New York, N. Y., is planning to expand the combed-cotton production of some of its mills for shirtings and better dress fabrics. George C. Ramey has joined the company's Fine Goods Dept. in line with this development.

Georgia Rug Mill, Summerville, Ga., plans to enlarge its manufacturing and warehousing facilities. The original steam plant will be replaced with new power facilities.

Heirloom Carpet Mills, Inc., Chickamauga, Ga., has leased a new one-story building at North Chickamauga. The mill will be equipped for the production of chenille rugs, carpets, and related specialties. George F. Collins and A. H. Bates are in charge of this unit.

Hollytex Weaves, Inc., Los Angeles, Calif., is now located in its new mill at 2234 Colby Ave. The new building contains about 20,000 sq. ft. of floor space. Cotton carpeting will be manufactured.

Jackson Mills, Wellford, S. C., has let the contract to Earnhardt Electric Service, Inc., Spartanburg, S. C., for the installation of an electric power and lighting system in the mill. Lockwood Greene Engineers, Inc., Spartanburg, is the engineer.

Macanal Mills, Salisbury, N. C., recently completed a renovation and modernization program that included the installation of additional cards, new Whitin drawing frames, large-package roving frames, and Super-Draft changeover of spinning frames. A new cleaning system in the spinning and winding room was installed by Parks-Cramer Co.

Mebane Co., Mebane, N. C., has an expansion and modernization program under way that will cost about $150,000. A new one-story addition, containing about 12,000 sq. ft. of floor space, is being constructed.

Park Yarn Mills Co., Kings Mountain, N. C., is building an addition to its warehouse that will add 17,000 sq. ft. of floor space for cotton storage. C. T. Bennett Construction Co. is the contractor.

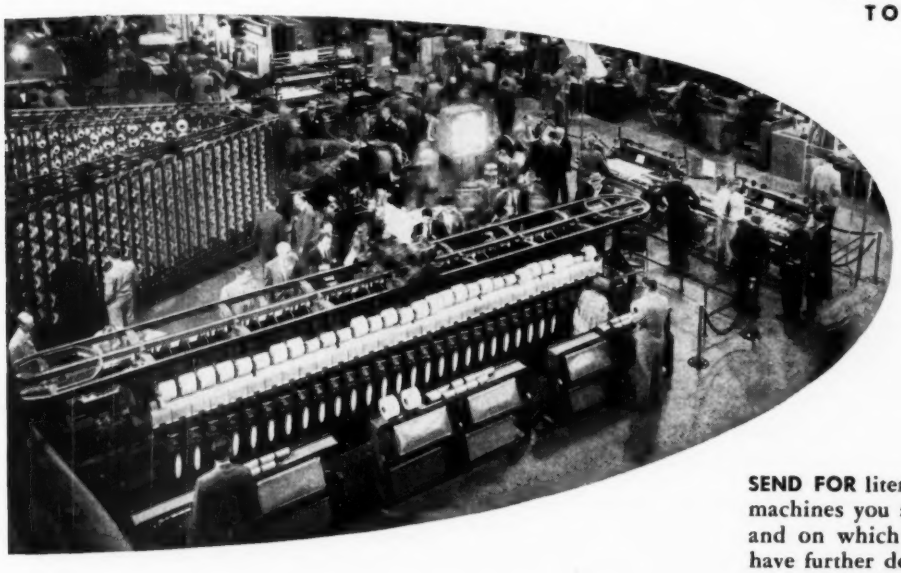
Poe Mfg. Co., Greenville,

BARBER COLMAN

IT WAS GOOD TO SEE YOU...

We were glad to have a chance to talk with you, and to show you the newest developments in Barber-Colman textile processing machines, at the American Textile Machinery Exhibition at Atlantic City. It was a great show and we had a grand group of visitors.

SORRY WE DID NOT GET TO TALK TO EVERYBODY. While we had 25 people staffing our exhibit, we still were unable to keep up with all those who wanted to visit with us. We regret this more than we can say and can only hope, and try, to do better next time.



ARE YOU COMING TO GREENVILLE?

The next big gathering of textile people will be at the 18th Southern Textile Exposition at Greenville, S. C., October 4th through the 8th. Will you be there? We will be on hand with some of our latest improvements, and will look forward to seeing you.

SEND FOR literature on any of the machines you saw at Atlantic City and on which you would like to have further details. It is available promptly for the asking.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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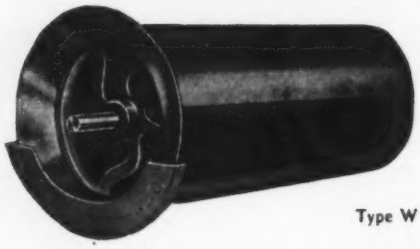

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Open End Cooling Cylinder For Setting Resin Finish

Cools cloth below room temperature. Eliminates cooling off period. Improves fabric finish. Easily applied to Calenders, Embossers, Tenter Frames.

Small pipe feeds cold water to maintain 3" level on bottom of cylinder. Warm water drains over flared end of cylinder. No rotary joints.

Send for Sizes and Simple Installing Instructions.

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Can Dryers | Jacketed Cylinders | Mixing Kettles
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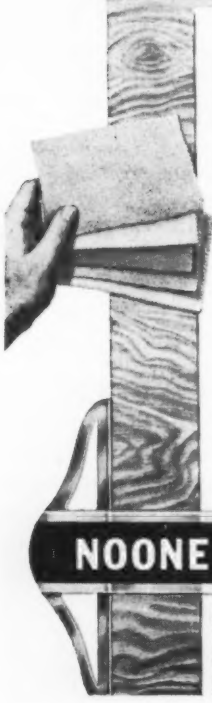

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All weights and constructions supplied
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Cotton warp or linen warp
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Manufactured to exacting standards for uniformity
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Complete range of types, sizes, and weights
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Developed at your request

NOONE INDUSTRIAL FABRIC DIV. KENWOOD MILLS

Peterborough, New Hampshire

The oldest manufacturer of woven industrial fabrics in America

News About MILLS (Continued)

S. C., will construct a new warehouse.

Riegel Textile Corp., Trion, Ga., will ask for bids soon for a new branch mill at Brundidge, Ala. Carl H. Lancaster, Montgomery, Ala., is the architect.

J. P. Stevens & Co., Inc., New York, N. Y., has purchased 41% of the stock in Robbins Mills, Inc., New York, N. Y. Robbins will operate as a separate corporation.

Trent Cotton Co. Ltd., Trenton, Ont., plans to build a branch plant in the vicinity of Stirling, Ont., that will cost $350,000.

Trenton Cotton Mills, Gastonia, N. C., has purchased the Huntersville, N. C., plant of Carolina Mills.

WOOLEN AND WORSTED MILLS

Bell Co., Worcester, Mass., plans to construct a spinning plant at Lincolnton, N. C.

Bernhard Altman Co., New York, N. Y., is putting into operation a cashmere yarn-producing unit at the former High Rock Knitting Mill property, Philmont, N. Y. Yarn will be shipped to another Altman mill in San Antonio, Texas, for weaving into apparel fabrics. Harold A. Fahr, vice president of Altman, will be general manager at Philmont.

Berkshire Woolen Co., Pittsfield, Mass., is building a $75,000 addition to its local plant.

Goodall-Sanford, Inc., Sanford, Me., has completed a yarn plant at Hot Springs, N. C. Equipment valued at nearly $1,000,000 is being installed. John A. Hogan is the local manager.

C. H. Masland & Sons, Inc., Carlisle, Pa., has completed a new one-story addition that contains about 110,000 sq. ft. of floor space.

Packard Mills, Webster, Mass., is erecting an addition to house its new weave room and part of the finishing department. The company is also building a warehouse at Webster and enlarging its card room at Caryville, Mass.

Pickens Mfg. Co., Pickens, S. C., has awarded the contract for a new $1,000,000 mill to Daniel Construction Co., Greenville, S. C.

Rodney Mills, Inc., New Bedford, Mass., is starting operations in the former Kilburn Mill. At present, 60 looms are in operation producing wool goods. About 60,000 sq. ft. of floor space will be used. Herman J. Bernier is the executive vice president and treasurer.

Alexander Smith, Inc., Yonkers, N. Y., is arranging for an increase in the capitalization from 1,050,000 to 1,500,000 shares of stock.

Wanskuck Co., Providence, R. I., will consolidate its Mohegan Mill, Nasonville, R. I., with its Wanskuck Mill, Providence.

SYNTHETICS MILLS

Excelsior Mill No. 2, Clemson, S. C., has closed bids for a one-story addition that will be used for warehouse space. The contract will be awarded soon. Deering, Milliken Service Corp., Spartanburg, S. C., is the engineer for the project.

Seminole Mills, Statesville, N. C., a unit of United Merchants & Manufacturers, Inc., is expanding its production in weaving Fiberglas fabrics.

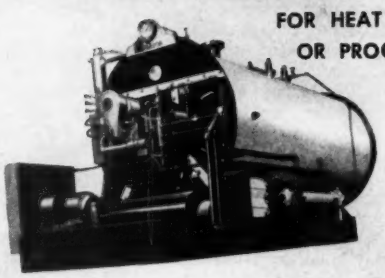
KNITTING MILLS

Airmaid Hosiery Mills, New Braunfels, Texas, plans to construct a 12,000-sq.-ft. mill building that will cost about $100,000. M. M. Donosky is in charge of the project.

Alden Mills, Meridian, Miss., is having plans prepared by William Archer, Meridian, for a proposed new one-story addition to its mill that will contain 10,000 sq. ft. of floor space.

STEAM

FOR HEAT
OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

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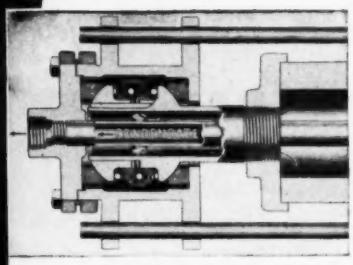
SUPERIOR STEAM GENERATORS

THE NEW TYPE L-J Johnson Joint



Type L-J Johnson Joint, showing body lugs and support rods. Steam inlet doesn't show—is at 90° from these lugs.

With lugs cast right on the body to accommodate supporting rods, the Type L-J Johnson Joint has proved to be the neatest answer for a wide range of operating conditions. It removes the weight of body and connections from rotating assembly. And now it has been redesigned to reduce size, weight and price, and increase life of seal rings. As always, the new Type L-J is completely packless, self-lubricating and self-adjusting, with flexibility built right in to combat misalignment.

Learn how the new Type L-J can pay its own way.
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ROME SOAP MFG. CO.

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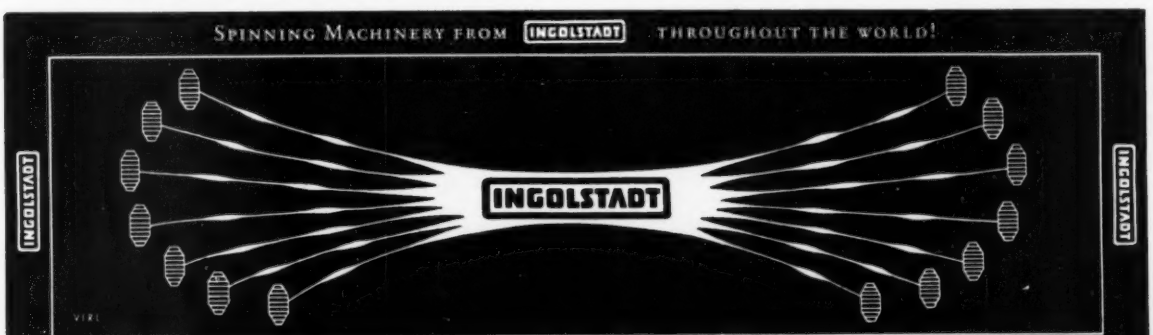

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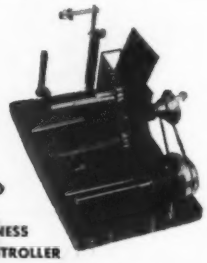
STANDARD 36" ROVING REEL

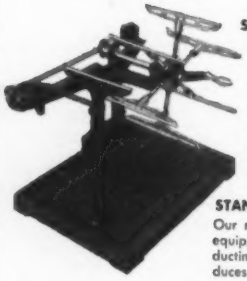
Equipped with a Productimeter Yardage Counter that is visible at all times. Has an adjustable creel that will take any size cardroom bobbin.



STANDARD YARN EVENNESS CONTROLLER

(Yarn Examining Machine)

Hand operated with 5 speeds that control yarn spacing. Has adjustable tension stand and supply attachment for bobbins or cones.



STANDARD 36" OR 54" YARN REEL

Our new Yarn Reel is hand operated and equipped with a direct reading, 3 figure Productimeter. Traverse is adjustable and produces 4 skeins in one operation.

IMMEDIATE DELIVERY

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STANDARD MILL SUPPLY CO.

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News About **MILLS** (Continued)

Belvedere Hosiery Co., Charlotte, N. C., will install seamless equipment to produce 400-needle goods for women. The plant's full-fashioned production will continue. Seamless production will start around Oct. 1.

Butner Hosiery Mills, Inc., has begun operations at Butner, N. C., manufacturing women's 54-gauge full-fashioned nylon hosiery. The new company occupies two buildings formerly used by Diamond Hosiery Corp., which closed its Butner plant last November. E. G. Sampedro, formerly with Diamond, is president.

Butterfly Hosiery Co., Montreal, Que., is installing new 75-gauge, 32-section full-fashioned knitting equipment.

Burlington Mills Corp., Greensboro, N. C., is constructing a $54,000 warehouse addition to its local hosiery-finishing plant. H. L. Coble Construction Co. is the contractor.

Carolina Sports Knitting Co., Florence, S. C., has been granted a South Carolina charter to manufacture women's and children's sports and athletic wear. The company has a capital stock of $20,000. Robert P. Schofield, Jr., is president.

Wm. Carter Co., Needham Heights, Mass., has made plans for a new one-story addition to its plant at Barnesville, Ga. The new building will contain a knitting room with a washing and bleaching area. The cost is about $500,000.

Freed Sportswear Co., Inc., has added 5,000 sq. ft. to its present facilities at 2401 Pacific St., Brooklyn, N. Y. Fine-gauge jacquard machines have been set up in added space to produce popular-price knitted suits and Orlon sweaters.

Louis Gallet Knitting Mills, East Millsboro, Pa., is installing a new British machine for full-fashioned sweater production.

Harper Hosiery Mills, Inc., Charlotte, N. C., has been incorporated with an authorized capital stock of 1,000 shares of no par value to produce women's seamless hosiery. Principals are Theresa S. Bethune, R. Carl Hubbard, and William A. Shuford, all of Charlotte.

Joy Hosiery Co., Concord, N. C., has obtained a North Carolina corporate charter. The company has a capital of $100,000. Incorporators are J. P. Reeder, W. E. Denny, and Nelson C. Sikes, who are executives of Hugh Grey Hosiery Mills, Concord.

Lion Knitting Mills, Cleveland, Ohio, plans to expand its sweater production.

Lykens Hosiery Mills, Inc., Marion, N. C., expects to be in full operation soon in the former Josephine Mill building on Clay St. following completion of an addition that doubles the size of the present building. The company's five plants will be consolidated here.

Phoenix Sweater Mills, Philadelphia, Pa., is now in production on its new line of women's full-fashioned Orlon and full-fashioned cashmere sweaters.

Royce Hosiery Mills, Inc., Fleetwood, Pa., will install additional 220-needle Komets to produce 70-den. Helanca goods.

Sanson Hosiery Mills, Philadelphia, Pa., is installing new 60- and 66-gauge full-fashioned knitting machines in its plants at Corinth, Miss., and Sevierville, Tenn. Its finishing unit at Allentown, Pa., is being expanded.

Scottsboro Knitting Mills, Scottsboro, Ala., has been sold to New York financial interests. The new owners will operate the plant under the name of Scottsboro Mfg. Corp.

Shelley Knitting Mills, Inc., Philadelphia, Pa., has been formed to produce women's and children's sweaters.

Stylecraft Knitwear Mfg. Div. has been formed by Stylecraft Hosiery Corp., New York, N. Y., to handle the production and sales of women's and children's knitted shirts. Walter Goldstein will be in charge of production.

Supersilk Hosiery Mills Ltd., London, Ont., will erect a three-story extension of brick and steel construction at the rear of its plant. Victor J. Blackwell & Associates, 310

News About **MILLS** (Continued)

Princess Ave., London, Ont., is the architect.

Thomasville Hosiery Mills, Thomasville, N. C., is building an addition that contains 6,175 sq. ft. of floor space. The cost is $20,000. Part of the new building will be devoted to office space and part will provide for enlarged operations.

Weldrest Hosiery Ltd., Mt. Dennis (Toronto), Ont., will enter the women's seamless-hosiery field this summer when it installs 400-needle circular knitting machines.

Philip Wick Co., New York, N. Y., has undertaken broad expansion of facilities of its associated companies.

DYEING AND FINISHING PLANTS

Andalfoam Div., Dominion Silk Mills Ltd., Toronto, Ont., will begin production this month in a recently enlarged building at 19 Ingram Drive. The company is a joint undertaking of Dominion Silk Mills Ltd. and Andrews-Alderfer Co., Akron, Ohio.

Burlington Mills Corp.'s hosiery-finishing plant, Greensboro, N. C., has received a building permit from the city of Greensboro for a $54,000 warehouse addition.

Coats & Clark, Toccoa, Ga., will start production in its new thread-finishing plant around Oct. 1. The building contains 350,000 sq. ft. of floor space. The cost was $7,000,000. J. E. Sirrine & Co. was the architect, and Daniel Construction Co., contractor. A. J. Morse, Coats & Clark vice president, is the mill manager.

Dartmouth Finishing Co., New Bedford, Mass., is completing the installation of a new boiler that will double its capacity. This is the final step in an expansion program, started last year, that cost $250,000.

Farrell Hosiery Finishers, Inc., Durham, N. C., recently organized, is taking over the plant facilities of Hamilton Hosiery Mills, 915 Morning Glory Ave., following the merger of Hamilton with Diamond Hosiery Corp. The new firm is headed by L. J. Farrell, formerly vice president and superintendent of Hamilton.

Fieldcrest Mills, Inc., will do commission dyeing, bleaching, and finishing at its Spray, N. C., plants. Fieldcrest is equipped to bleach, dye, nap, and produce Sanforized cotton goods from 60 to 100 ins. wide. Wool fabrics can be fulled, carbonized, dyed, and napped Blends also can be processed.

Hamilton Dyeing & Finishing Corp., Paterson, N. J., has been formed and has begun operations at 102 Fifth St. Joseph Maselli is president and dyer; J. D. Rocco is secretary-treasurer and finisher.

Interstate Dye & Finishing Co., Passaic, N. J., has taken over space in the building formerly occupied by Dundee Finishing Co.

Jersey Dye Corp., East Newark, N. J., has been organized by Horace Wolff. Work has started on preboarding, dyeing, and finishing hosiery.

United States Finishing Co., Hartsville, S. C., is proceeding with the construction of a new addition, for which the general contract recently was let to Fiske-Carter Construction Co., Spartanburg, S. C. It will be used as a warehouse. Lockwood Greene Engineers, Spartanburg is the architect and engineer.

York Dye Works, St. Johns, Que., has changed its name to Kenmore Dye Works.

FOREIGN MILLS

Berkshire Knitting Mills, Reading, Pa., plans to open a third in its chain of foreign mills at Bogota, Colombia. Berkshire's other two foreign plants (in Northern Ireland and South Africa) are reported operating at capacity and undergoing expansion programs. Paul E. Guenther has been made vice president in charge of all foreign operations.

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FOR TESTING WINDING DENSITY
Created to solve the problem of maintaining uniform density for unwinding in later processes, the DUROMETER saves time and money. Tests density of windings on spools, cones, bobbins, cops and package dyeing tubes.
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AUTOMATIC!

For Pressing Folded Garments

UTICA PRESS CONVEYOR

If you want to be competitive on pressing folded garments and get a top-quality job, here's the way to do it! THE UTICA PRESS CONVEYOR furnishes a stream-lined unit whereby operators, after folding the garments, lay them on the belt. The garments automatically pass under the air driven press buck, stop, and are pressed for a predetermined length of time. The buck goes up, the belt moves, and the buck comes down again and presses, thus providing a continuous pressing sequence that may be maintained indefinitely. After the garments pass under the buck, they come out the other end of the conveyor and slide off onto the table where they are boxed.

FEATURES

AUTOMATIC—Eliminates labor loading and unloading the press, and waiting while it presses . . . handles all types of heavy and light folded garments.
ADJUSTABLE—Simple adjustments for varying the dwell on the buck and movement of the belt . . . change pressing time to anywhere from 3 to 30 seconds.
WELL BUILT—Press is well guarded . . . trouble-free. Can be furnished in 24" or 32" wide belts in any desired length . . . adaptable to any air driven press.
PAYS FOR ITSELF—Users report saving cost of conveyor and installation in 8 months in actual direct labor.

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2145 Dwyer Ave., Utica 2, New York
Builders of Textile Machines Since 1903

NEWS ABOUT Men

Joseph J. Alderdice has been elected a vice president of Fruit-of-the- Loom, Inc., Providence, R. I. **R. H. Ives Goddard** has been elected a member of the board.

Clifton Allen has been named general manager of Monument Mills, Housatonic, Mass., succeeding **Arthur Babbitt**, resigned.

Ken Bailey, general sales manager of Riverdale Silk Mills, Galt, Ont., has been named president and general manager.

E. Allen Bentley has been elected vice president of Swift Mfg. Co., Columbus, Ga.

Jack Berman and **Aaron S. Bring** have been elected vice presidents of M. Lowenstein & Sons, Inc., New York, N. Y. **Paul Kaufman** and **David Aranow** have been elected assistant vice presidents. **Harold Feibush** has been elected to the board of directors.

James M. Busher has been appointed superintendent and designer at George Mabbett & Sons Co., Plymouth, Mass. **John Rankl** has been named overseer of finishing.

Henry Cathy has been named superintendent of carding at Olson Rug Co., Chicago, Ill.

Harold Clark has been appointed director of the Customer Technical Service of

BARNARD TOWNSEND has been elected financial vice president of Mohawk Carpet Mills, Inc., Amsterdam, N. Y.

Avondale Mills, Sylacauga, Ala. **French D. Whitten** has been named superintendent of the company plant at Pell City, Ala., to succeed Mr. Clark. **Earl Smith** has been named day supervisor at Cowikee Mill No. 3, Eufaula, Ala.

Louis Danello has joined V. T. M. Finishing Corp., Paterson, N. J., as head finisher.

Curtis C. Deardorff has been named assistant treasurer of James Lees & Sons Co., Bridgeport, Pa.

W. J. Fullerton has been

JOHN FALKENHOLM (left) and THOMAS O. BOUCHER (right) have been elected vice presidents of Chicopee Mills, Inc., New York, N. Y.

News About **MEN** (Continued)

S. CRAWFORD BONOW (left) has been named manager of the Manufacturing Div. of Stein, Hall & Co., Inc., New York, N. Y. PAUL KAPLAN (center) has been named manager of the Technical Div. and ALBERT R. ROBBINS (right) has been named manager of the New York laboratories.

elected a director of Mooresville Mills, Mooresville, N. C.

Edward Ford has been named overseer of weaving at the Baltic Mills of American Woolen Co., Inc., Enfield, N. H., succeeding **Graham Griffin**, resigned.

Leonard Garrard has been appointed assistant controller of Archer Hosiery Mills, Columbus, Ga.

C. P. Gearon, Jr., has been appointed vice president of Belrug Mills, Inc., Greenville, S. C. **F. E. Hagg,** formerly vice president in charge of sales, has been named executive vice president. **Frank Ellis,** former sales manager, is now vice president and sales manager.

Henry Gerrits has been appointed manager of Glen Woolen Mills, Inc., Norwich, Conn.

Lawrence Goldstein has been named secretary and treasurer of Marilyn Knitting Mills, Inc., Brooklyn, N. Y.

Stanley Goluch has been named superintendent of Dresden Woolen Mills, Inc., Dresden, Ohio.

G. W. Grier, formerly vice president of Penman's Ltd., Paris, Ont., has been named president to succeed **Arch F. Baillie**, retired.

F. Albert Hayes has been named vice president, Special Products Div., Bigelow-Sanford Carpet Co., New York, N. Y. **William R. Murray** has been named director of materials and purchasing. **George Romiew** has been made general purchasing agent.

Richard V. Healy, plant engineer of the Franklin, N. H., and Tilton, N. H., mills of M. T. Stevens & Sons Co., has been appointed supervising engineer of the Northern Div., M. T. Stevens & Sons Co., a division of J. P. Stevens & Co.

Lewis M. Heflin, vice president and secretary of Cone Mills, Inc., Greensboro, N. C., has been named executive vice president. **T. R. C. Hood** and **Robert C. Shaw** have been named vice presidents.

Earl B. Hoffard has been named weaving superintendent at the new plant of Hess, Goldsmith & Co., Inc., Taylor, Pa.

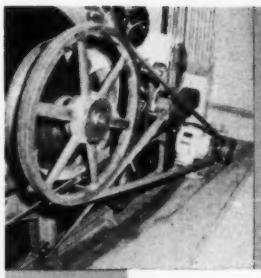
W. J. Holman, Jr., has been named president, and **George C. Riegger** has been made executive vice president and treasurer of Chicopee Mfg. Corp., Chicopee Falls, Mass. Mr. Holman succeeds **G. O. Lienhard,** who is now chairman of the board.

C. Gooden Jenkins has been appointed general superintendent of Lane Cotton Mills, New Orleans, La. **Clarence A. Barrett** has been named assistant superintendent.

Donald C. Johnston, plant manager of Dublin Mills, Dublin, Ga., has been appointed superintendent of Franklin Mills, Franklin, N. H. Mr. Johnston will be succeeded at Dublin by his assistant, **Thomas D. Bruce.**

Edward Johnston has been named manager of Robbins Mills' Raeford Plant, Raeford, N. C.

Charles S. Jones has been named general superintendent of the gray mill of Montreal



MERCURY CLUTCH STEPS UP PRODUCTION FOR TEXTILE MANUFACTURER—

Type of Machine	Cotton Card.
Driven by	1½ HP—1200 RPM Motor
Type of Operation	Carding of Cotton Fibers.
Problem	Because of the high inertia of the card cylinder, a long acceleration period was required during which the motor drew excessive current, causing over-heating of the motor. The shock applied to the cylinder shaft due to the abrupt start of the motor distorted the frame of the card and impaired the quality of the cotton fibers.
Solution	A standard clutch was installed on a floor mounted motor driving a 4.0" pitch diameter two groove "B" section sheave on the clutch to a 25.0" pitch diameter sheave on the cylinder shaft to achieve the desired cylinder speed.
Results	Starting current again was reduced from a maximum of 750% of rated to a maximum of 300% of rated current, eliminating the problem of over-heating of the motor. The soft gradual application of motor torque to the cylinder shaft eliminated distortion and improved the quality of the cotton fibers.
Mercury Experience	Through years of experience Mercury has adapted a number of standard clutches to meet the problems of the textile industry. We invite your inquiry.

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MERCURY CLUTCH DIVISION
AUTOMATIC STEEL PRODUCTS, INC.
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YOU CAN COUNT ON WAK COUNTERS

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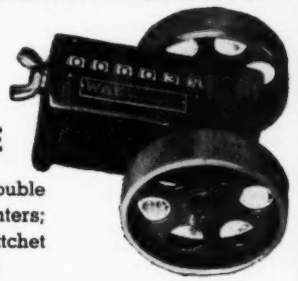

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SPECIALIZING IN TEXTILES For OVER ONE-THIRD OF A CENTURY

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News About MEN

(Continued)

Cottons Ltd., Valleyfield, Que. **Stanley H. Chambers** is now head of the finishing plant. **David Johnston** has succeeded Mr. Jones as superintendent of the gray mill. **Dale Vander Voort** has resigned as manager to return to the textile industry in the United States.

Hans Krause has returned to Great Falls Bleachery & Dye Works, Inc., Somersworth, N. H., as superintendent of dyeing. He succeeds **W. Deady,** resigned.

Henry LaCroix has been named overseer of twisting and winding at National Worsted Mills, Jamestown, N. Y.

Maurice Levin has been elected chairman of the board of Columbia Mills, Inc., Syracuse, N. Y. Others elected were: **Edward F. O'Reilly,** president; **H. E. Wilkins, F. J. Sliney,** and **R. A. Harper,** vice presidents; **James A. Reynolds,** secretary; **F. L. Sager,** treasurer and comptroller.

R. A. Liner, assistant superintendent of the new Durst Plant of Greenwood Mills, Greenwood, S. C., has been appointed assistant superintendent of the Ninety-Six, S. C., plant. He has been succeeded at Durst by **R. M. Yonce.** Mr. Liner succeeds **A. L. Strawn** at Ninety-Six.

Leon F. Moody, a director of Duplan of Canada Ltd., Montreal, Que., has been named to the new position of vice president and director of Duplan Dyeing Co. Ltd., Valleyfield, Que.

John Morris is now in charge of production at Faith Mills, Inc., Averill Park, N. Y., succeeding **E. C. Hayes.**

A. J. Morse, vice president of Coats & Clark, Inc., has been appointed mill manager of the new Coats & Clark, Inc., plant at Toccoa, Ga.

L. E. Parkhurst has been appointed resident manager of the Norwich Mills of American Woolen Co., Norwich, Conn. **William J. Cummings** has been named superintendent of the Webster Mills, Webster, Mass., to succeed Mr. Parkhurst.

Jack Patson has been named superintendent of the silk throwing department started by Stafford Printers, a division of Goodman & Theise, Inc., Stafford Springs, Conn.

Joseph F. Perry has been named manager of the Harrisburg Woolen Mill Co., Inc., Eugene, Ore.

Howard Robbins has resigned as superintendent of Cleveland Cloth Mills, Shelby, N. C., and has been succeeded by **R. G. Stallings. W. L. Cogdill** has been named superintendent of weaving, succeeding Mr. Stallings.

Walter Robinson has been named executive vice president, treasurer, and general manager of the Wellman Combing Co. plant, Johnsonville, S. C. He has been succeeded as vice president and assistant treasurer of Southwell Combing Co., North Chelmsford, Mass., by **Eugene Crane.**

THOMAS E. LUCAS has been appointed general manager of all operations of Associated Textiles of Canada Ltd., Louiseville, Que. This is a newly created position.

FRANK H. TINNEY, JR., has been named chief industrial engineer of the Fabric Production Div., United Merchants & Manufacturers, Inc., Greenville, S. C.

News About **MEN** (Continued)

W. V. E. Terhune, vice president of Berkshire Woolen Co., Pittsfield, Mass., has been elected board chairman of the Bell Co., Worcester, Mass. He succeeds the late **Myron S. Freeman.**

Robert Welsh has been appointed director of Northern and Southern woolen and worsted finishing of M. T. Stevens & Sons, a division of J. P. Stevens & Co., Inc., North Andover, Mass.

OBITUARY

Dr. Ernest B. Benger, 68, former director of the Technical Div. of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Louis Bounous, 70, a founder of Valdese Mfg. Co., Valdese, N. C.

Kenneth F. Cooper, retired senior vice president of American Cyanamid Co., New York, N. Y.

Manley L. Crain, Sr., 71, superintendent of the mechanical department of the Apalache Plant of Victor Monaghan Co., Greer, S. C.

Martin J. Feld, 47, vice president of Novelty Knitting Mills, Philadelphia, Pa.

W. Merle Foreman, 58, a foreman in the knitting department at the Interwoven Stocking Co. plant at Martinsburg, W. Va.

Myron S. Freeman, 67, former president of the Bell Co., Worcester, Mass.

H. L. Hagerman, treasurer and vice president of the executive committee of J. E. Sirrine Co., Greenville, S. C.

Frank J. Hale, 92, senior board member of Saco-Lowell Shops, Boston, Mass.

Victor C. Hassold, president of Steel Heddle Mfg. Co., Philadelphia, Pa.

Carl A. Hielle, 55, the assistant general superintendent of Botany Mills, Inc., Passaic, N. J.

Ernest D. Huggard, 59, vice president and plant manager of Mannington Mills, Inc., Passaic, N. J.

H. F. Jones, president of Echota Cotton Mills, Calhoun, Ga.

William H. Lee, 77, chairman of the board of Lockport Felt Co., Lockport, N. Y.

Joseph H. Lindsay, 51, an assistant on the staff of the general manager of Fieldcrest Mills, Leaksville, N. C.

James R. Mallory, 80, president and treasurer of Shamrock Damask Mills, Inc., Landrum, S. C.

Miss Mary R. Martin, 51, comptroller at Martinat Hosiery Mills, Valdese, N. C.

Lloyd O. McDonald, 60, executive vice president of Warner & Swasey Co., Cleveland, Ohio.

William H. Mitchell, founder and president of Circle-Bar Knitting Co. Ltd., Kincardine, Ont.

John A. Morrell, 71, retired overseer of the carding department of Jackson Mills, Wellford, S. C.

Ray C. Roberts, 59, a consultant with Deering, Milliken Co., Clemson, S. C.

Henry G. Schaumburg, 74, retired overseer for the Atlantic Mills Div., A. D. Juilliard & Co., Providence, R. I.

Robert W. Sharwood, 49, a director and vice president of Canadian Industries Ltd., Montreal, Que.

Charles E. Smith, superintendent of York Knitting Mills Ltd., Zimmerknit Div., Hamilton, Ont.

Joseph W. Stark, 52, a vice president and director of Klopman Mills, Inc., New York, N. Y.

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AUTOMATIC AIR LINE FILTER — Model W-1 —

Amazing performance is accomplished by using angular air inlets which develop a centrifugal action, abstracting the moisture and throwing it against the wall of the bowl, from where it runs to below the baffle plate, definitely capturing it to be drained. RIBBON TYPE FILTERING UNIT removes solids 10 microns (.00039") and larger. Bowl is transparent plastic, thus all foreign matter filtered from the air line is visible, eliminating guesswork as to when filtering element should be cleaned or bowl drained. No water, dirt or oil in compressed air that has passed through the filter. . . . This piece of equipment gives maximum protection to Scott and Williams Lint Blowers, Blow-off Hoses and various air-operated controls.

Representatives in All Textile Centers

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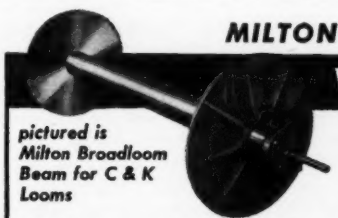
MILTON STEEL BARREL WARP BEAMS



pictured is Milton Broadloom Beam for C & K Looms

for BROAD, NARROW FABRIC, RIBBON, VELVET & CARPET LOOMS

MILTON steel barrel Warp Beams are sturdily constructed with cast iron adjustable or fixed flanges. Ends equipped for all types of let-off.

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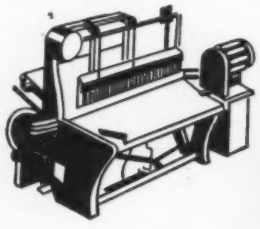

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THROWING SUPT—48 yrs. old with 29 yrs. Intensive experience, beginning as operator, advancing to superintendency of new 25000 spindle plant, in twisting, combing, redrawing, reeling and quilling of silk, rayon, acetate and nylon. Includes 6 yrs. supervising throwing silk tram, organzine and hosiery yarns. Married, PW-1958, Textile World.

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OVERSEER COTTON carding desires make new connection, also experienced in Technical control & standards. Young, married, B.S. degree Textiles. PW-3000, Textile World.

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(Continued on the opposite page)

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PW-2768, Textile World
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P-3176, Textile World
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(Continued from opposite page)

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Additional Wanted Advertising page 240, Books For Sale page 236

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24—Frames S.L. Spinning, 252 Spindles, 3¼" Gauge, Tape Drive, Casa Blanca Long Draft, B.D.
13—Frames Whitin Spinning, 240 Spindles, 3¼" Gauge, Tape Drive, Casa Blanca Long Draft, B.D.
6—Frames Whitin Spinning, 252 Spindles, 3¼" Gauge, Tape Drive, Casa Blanca Long Draft, B.D.
9—Frames Whitin Spinning, 264 Spindles, 3½" Gauge, Tape Drive, Casa Blanca Long Draft, M.D.
6—Frames Whitin Spinning, 240 Spindles, 3¾" Gauge, Tape Drive, Conventional Draft, B.D.
21—Frames H & B Spinning, 224 Spindles, 4" Gauge, Tape Drive, 4 Roll H & B Long Draft. 13 M.D.-8 B.D. All Frames Box Head Type. Ranging in Age from 1923 to 1936.

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2—Venango tandem Package & Raw Stock Dyeing Machines, complete with dryers, extractors, and air compressors, each machine 500 pound capacity, constructed of stainless steel, 1951, comparable to new.
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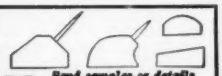

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American Viscose Corp., Textile Chemical Dept.	32	C
Antara Chemical Div., General Dyestuff Corp.	39	C
Appleton Machine Co.	212	E
Armstrong Cork Co.	60-61	T
Askania Regulator Co.	163	E, K
Atkinson, Haserick & Co.	155, 157, 159	T
Atlantic Rayon Corp.	202	G
Automatic Steel Products, Inc. Mercury Clutch Div.	231	Q
Babcock & Wilcox Co., The	15	H, O
Bahnson Co.	6	A
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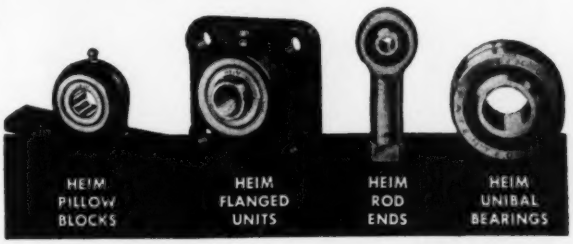

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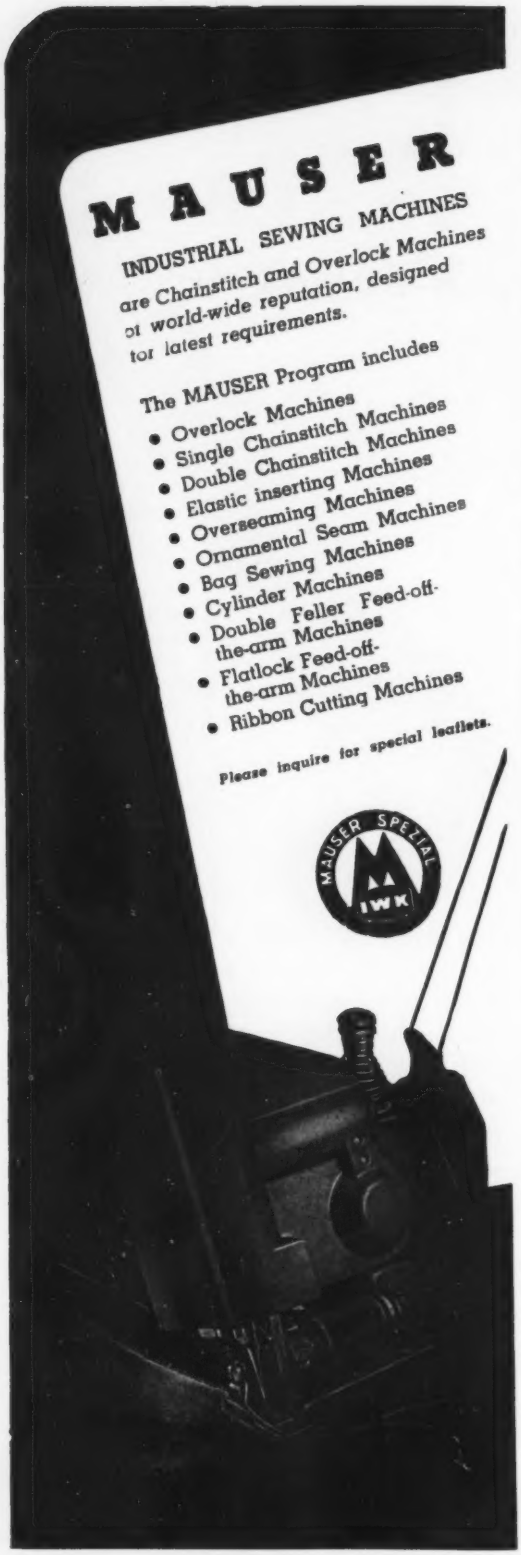

INDUSTRIE-WERKE KARLSRUHE
AKTIENGESELLSCHAFT KARLSRUHE, GERMANY

Clinton Foods Inc.	192	C, Q
Clipper Belt Lacer Co.	209	Q
C-O-Two Fire Equipment Co.	30	B
Cole Mfg. Co., R. D.	196	B, E
Columbia-Geneva Steel Div.	201	O
Columbia-Southern Chemical Corp.	62	C, N
Commercial Factors Corp.	2nd Cover	
Corn Products Refining Co.	64	C
Crane Co.	70	H
Crane Mfg. Co.	210	L
Crompton & Knowles Loom Wks.	13	R
Crucible Steel Co.	10	O
Cutler-Hammer, Inc.	41	F
Darnell Corp., Ltd.	200	P
Dary Ring Traveler Co.	214	T
Dayton Rubber Co., The Textile Div.	68-69	RT
Deutscher Spinnereimaschinenbau, Ingolstadt	227	T
Diehl Mfg. Co.	139	F, Q
Dietert Co., Harry W.	202	K
Dinsmore Mfg. Co.	223	E
Dolge Co., C. B.	210	B
Dommerich & Co., Inc., L. F.	18	N
Dow Chemical Co.	171	C
Draper Corporation	1	R
duPont de Nemours & Co., E. I. Dyestuff Dept.	55	C
Electrochemical Dept.	203	C
Plastic Div.	179-180	O
Emerson Apparatus Co.	206	K
Evansville's Committee of 100, Inc.	181	N
Fairbanks Co., The	191	H
Finnell System, Inc.	8	D
Fiske Bros. Refining Co., Lubriplate Div.	208	M
Foster Machine Co.	44	T
Gates Rubber Co.	12	Q
General Tire & Rubber Co. Industrial Products Div.	207	L, RT
Globe Dyeworks Co.	168	G
Goodrich Chemical Co., B. F.	14	C
Goodyear Tire & Rubber Co.	19	Q
Guider Specialty Co.	218	E
Gulf Oil Corp.—Gulf Refining Co.	43	M
Hartford Mach. Screw Co.	175	T
Haskell-Dawes Machine Co., Inc.	204	T
Hay Leather Co. Inc., Jas. E.	194	T
Hayssen Mfg. Co.	187	P
Heim Co.	241	R
Heineman Corp., O., Div. of Aetna Industrial Corp.	228	G
Hermas Machine Co.	210	E
Hinde & Dauch	164	P
Holdsworth Gill Screw Co., Inc.	157	T
Huyck & Sons, F. C.	226	E, RT
Hyatt Bearings Div., General Motors Corp.	141	O, Q
Ideal Industries, Inc.	48	T
Industrial Rayon Corp.	20	G
Industrie-Werke Karlsruhe	242	E
Ingersoll-Rand Co.	21	H
International Textile Exhibition	173	N
Ives Co., L. T.	213	L
Jiffy Textile Marker Co.	232	E, L, R
Johnson Corp., The	227	H
Keever Starch Co.	24	C
Kenwood Mills, Noone Industrial Fabrics Div.	226	E, RT

Keystone View Co.	232	N
Kidde & Co., Inc., Walter	177	B
Kuljian Corp., The	229	N
Lane & Bros. Inc., W. T.	243	P
Lewellen Mfg. Co.	204	Q
Link-Belt Co.	7	Q
Lockwood Greene Engineers, Inc.	16	N
Loper Co., Ralph E.	231	N
Lubriplate Div., Fiske Bros. Refining Co.	208	M
Manheim Mfg. & Belting Co.	193	Q
Maple Flooring Mfrs. Assn.	174	B
Marquette Metal Products Co.	128	T
Mathieson Chemical Corp.	2	C
M-B Products	233	T
McBride, E. J.	172	R
McCreary Mach. Works, Inc.	126	E
Meese, Inc.	221	P
Mercury Clutch Div. of Automatic Steel Prods., Inc.	231	Q
Merrow Machine Co.	186	E
Metlon Corp.	45	G
Milton Machine Works, Inc.	233	R
Minneapolis—Honeywell Reg. Co. Industrial Div.	50-51	K
Monsanto Chemical Co., Inorganic Chemical Div.	122	C
Textile Chemical Dept.	53	C
Morrison Machine Co.	46-47	E
Mount Hope Machinery Co.	216-217	E
Muller, Franz	56	E
Nash Co., J. M.	205	D RT
National Aniline Div., Allied Chem. & Dye Corp.	17	C
National Tube Div.	201	H O
National Vulcanized Fibre Co., Lestershire Spool Div.	182	RT
N. Y. & N. J. Lubricant Co.	199	M
Oakite Products, Inc.	244	C
Oilgear Co., The	31	H Q
Onyx Oil & Chem. Co.	71	C
Package Machinery Co.	133	P
Parks-Cramer Co.	22	A D
Parks & Woolson Machine Co.	190	E
Platt Bros. Sales Ltd.	159	T
Powell Co., Wm.	57	H
Powell Valves	57	H
Precision Gear & Machine Co.	222	Q
Proctor & Schwartz, Inc.	170	E
Reeves Pulley Co.	176	Q
Rohm & Haas Co.	165	C
Rollway Bearing Co., Inc.	54	O Q
Rome Soap Mfg. Co.	227	C
Ross Engrg. Corp., J. O.	169	A
Rumford Chemical Works	189	C
Ryerson & Son Inc., J. T.	194	O
Sandoz Chemical Works	23	C
Scherr Co., Inc., George	232	K
Schlafhorst & Co., W.	11	RT
Schlumberger & Cie.	205	T
Schramm, Inc.	166	H
Servel, Inc.	185	A
Shepard Niles Crane & Hoist Corp.	183	P
Shore Instrument & Mfg. Co., Inc.	229	K
Simco Co.	206	E L RT
Sinclair Refining Co.	33	M
Sirrine Co., J. E.	3rd Cover	N
Smith, Drum & Co.	65	E
Snap-On-Tools Corp.	184	B H
Societe Alsacienne De Constructions Mecaniques	155	T
Socony-Vacuum Oil Co.	25	M

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Solvay Process Div., Allied Chem. & Dye Corp.	215	C, T
Sonoco Products Co.	9	T
Spaulding Fibre Co., Inc.	29	P, T
Square D Co.	145	F
Standard Mill Supply Co.	228	E
Standard Pressed Steel Co.	230	O
Stewart Iron Works Co., Inc.	208	B
Stop-Motion Devices Corp.	207	L
Stowe-Woodward, Inc.	135	E
Sun Oil Company	160	C, Q
Superior Combustion Industries, Inc.	227	
Supreme Knitting Mach. Co., Inc.	28	L
Sylvania Electric Prod. Co.	178	F
Taylor Co., Halsey W.	199	N, T
Taylor-Stiles & Co.	200	
Tennessee Coal & Iron Div.	201	O, R
Terrell Machine Co.	63	
Texas Co., The	4th Cover	M
Textile Hall Corp.	209	N
Textile Machine Works	72, 130	L
Tompkins Bros. Co.	196	L
Torrington Co., The (Needles)	143	L
Turbo Machine Co.	5	L
U. S. Ring Traveler Co.	34	T
U. S. Steel Corp.	201	O
U. S. Steel Supply Div.	201	O
Universal Winding Co.	146	T
Utica Novelty & Mill Spec. Co.	230	E
Van Vlaanderen Machine Co.	66	E
Veeder-Root, Inc.	49	K
Victor Ring Traveler Co.	52	T
WAK Industries	231	K
Warner & Swasey Co.	59	R
Wayne Mfg. Co.	208	T
Whitin Machine Works	27	T
Wildman Mfg. Co.	124	L

PROFESSIONAL SERVICES

Kuljian Corp. 229
Lockwood, Greene & Co. 16
Loper & Co., R. E. 231
Sirrive Co., J. E. .....Third Cover

SEARCHLIGHT SECTION
(Classified Advertising)
H. E. Hilty, Mgr.

EMPLOYMENT
Positions Vacant 234, 235
Selling Opportunities Offered. 234
Positions Wanted 234
Selling Opportunities Wanted 235
Employment Services 235

BUSINESS OPPORTUNITIES
Offered 235

PROPERTY
For Sale 235
Wanted 235

EQUIPMENT
(Used or Surplus New)
For Sale 236

WANTED
Equipment

ADVERTISERS INDEX

A. F. Machinery Co., Inc. 236
Bialek Co., Theodore 238
Blank Co., Inc., A. & M. 239
Blank, Moe 238
Bresani, Joseph 236
Collins & Aikman Corp. 237
Egan, Inc., George W. 236
Elsevier Press Inc. 236
Fitzgerald, James E. 240
Fortune Personnel Service 235
Gaines Textile Machinery Co. 237
Geieringer, Walter 235
Industrial Products of America 239
IPA Southern, Inc. 239
Kent, William R. 240
Machinery Sales Corp. 238
Maine Development Commission 235
Main & Sons, Robert A. 237
McDowell Assoc., Inc. 240
Miller Machinery Co. 238
New England Products Co. 238
Pennsylvania Spool & Equipment Co. 237
Perry Equipment Corp. 239
Rabinowitz & Sons, Wm. 237
Raymond Service Inc., Charles 235
Republic Textile Equipment Co. 238
Rock River Woolen Mills 240
Sayles Biltmore Bleacheries Inc. 240
Southern Textile Works 240
Stave & Kessler 236
Textile Auxiliaries 239
Williams Machinery Co. 238

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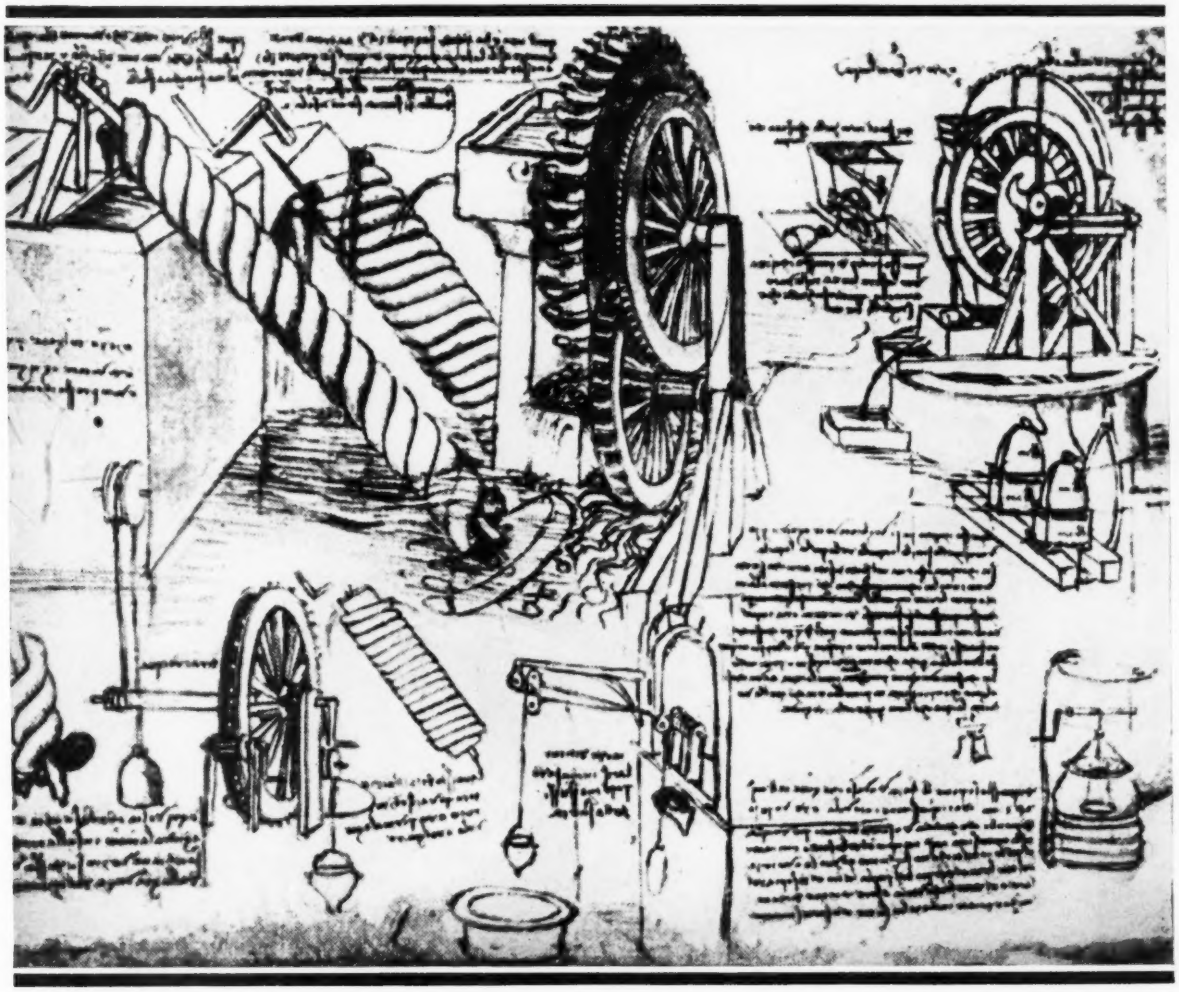

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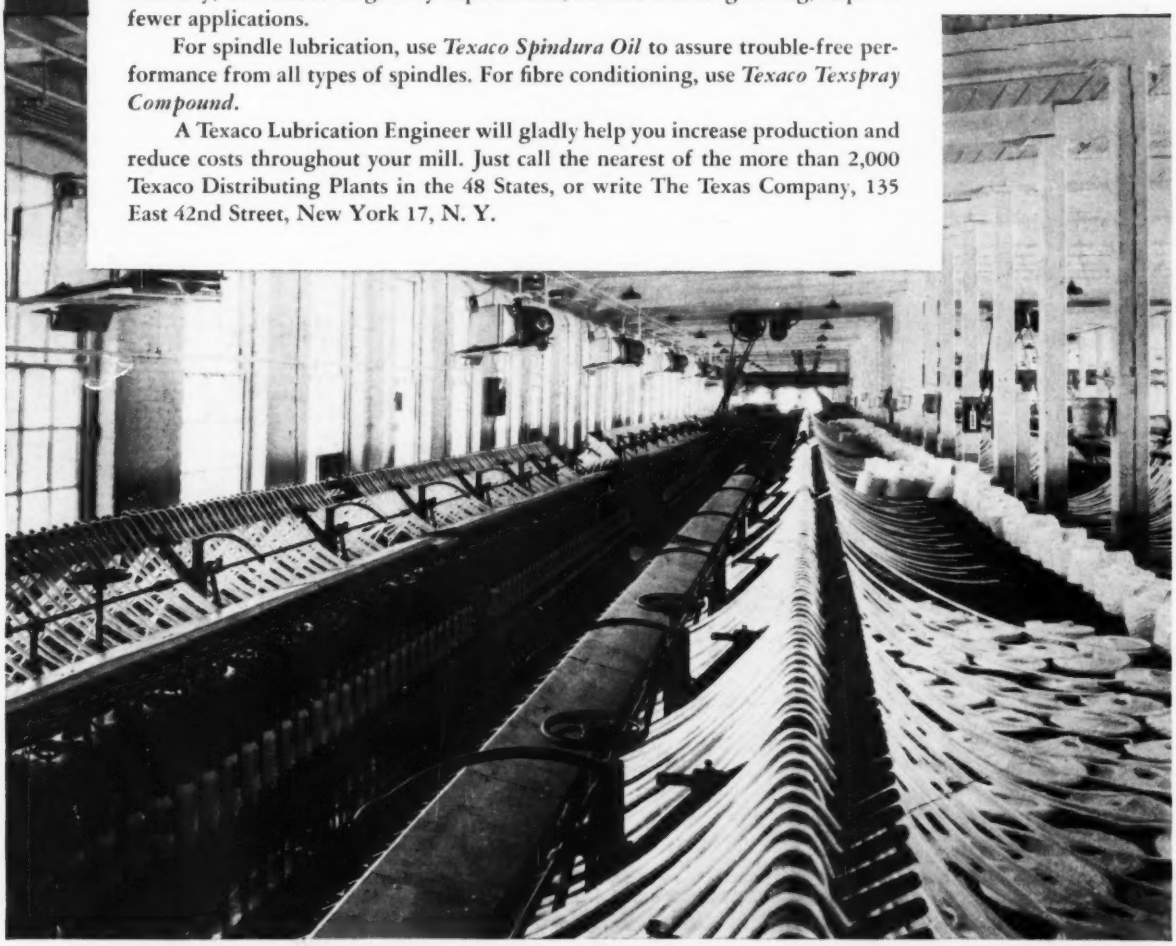

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